



REPORT

OF THE

Central Tuberculosis Officer

OF THE

LANCASHIRE COUNTY COUNCIL

FOR THE YEAR

1921.

PRESTON :
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1922.

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COUNTY TUBERCULOSIS COMMITTEE (1922).

The Chairman of the County Council :

†Sir Henry F. Hibbert, Bart., J.P., D.L.

The Vice-Chairman of the County Council :

†H. Wade Deacon, Esq., C.B.E., J.P.

Chairman of Committee :

*P. J. Hibbert, Esq., J.P., D.L.

Vice-Chairman ;

*†C. J. Trimble, Esq., C.B., C.M.G., L.R.C.S.I., L.M., J.P., D.L.

COUNTY ALDERMEN—

J. Chadwick, Esq., M.R.C.S.	*H. Winstanley, Esq., L.R.C.P.,
*W. Hodgson, Esq., J.P.	L.R.C.S., J.P.
R. Sephton, Esq., M.R.C.S.	

COUNTY COUNCILLORS—

*J. H. S. Aitken, Esq.	*G. Scarr, Esq., O.B.E., B.A.,
*E. Boothman, Esq.	M.B., L.R.C.S.I., L.M., J.P.
A. S. Bury, Esq., J.P.	*F. Slade, Esq.
H. F. Jeffery, Esq., M.B.,	T. Thompson, Esq.
Ch.B., J.P.	J. W. Watterson, Esq., M.B.,
J. Lancaster, Esq.	C.M., J.P.
*J. S. Rimmer, Esq.	T. White, Esq.
G. Rowson, Esq.	

* Members of Sanatorium and Hospital Sub-Committee.

† County Aldermen.

MEDICAL AND NURSING STAFF OF THE TUBERCULOSIS DEPARTMENT, 1922.

Central Tuberculosis Officer ;

G. Lissant Cox, M.A., M.D. (Camb.), M.R.C.S. (Eng.), L.R.C.P. (Lond.).

Consultant Tuberculosis Officers ;

George Jessel, M.A., M.D. (Oxon.), D.P.H. (Manchester). (†24th July, 1913.)

Charles W. Laird, B.A., M.D. (Dublin), D.P.H. (Liverpool). (†24th July, 1913.)

Burgess McPhee, M.B., Ch.B. (Glas.), D.P.H. (Camb.). (†24th July, 1913.)

J. Logan Stewart, M.A., M.B., Ch.B. (Glas.), D.P.H. (Camb.). (†24th July, 1913.)

Alan D. Brunwin, M.A., M.D. (Camb.), D.P.H. (Aberdeen). (†23rd October, 1913.)

Assistant Tuberculosis Officers ;

George H. Leigh, M.D., Ch.B., D.P.H. (Manch.). (†15th April, 1914.)

Charles H. Lilley, M.B., Ch.B. (St. Andrew's), D.P.H. (Lond.). (†15th April, 1914.)

George Fletcher, M.A., M.D., Ch.B. (Glas.), D.P.H. (Camb.). (†15th April, 1914.)

Scott C. Adam, M.B., Ch.B. (Glas.), D.P.H. (Lond.). (†21st May, 1919.)

G. Barker Charnock, L.R.C.S., L.R.C.P. (Edin.), L.R.F.P.S. (Glas.), D.P.H. (Liverpool). (†21st May, 1919.)

Alexander B. Jamieson, M.B., Ch.B. (Edin.). (†22nd October, 1919.)

Cecil Berry, L.R.C.P., L.R.C.S. (Edin.), L.F.P.S. (Glas.), D.P.H. (R.C.S.I.). (†16th June, 1920.)

John Catheart, M.B., Ch.B. (Edin.), D.P.H. (R.C.P.S.I.). (†16th June, 1920.)

Medical Superintendent, High Carley Sanatorium and Oubas House Children's Sanatorium, and Consultant Tuberculosis Officer for Furness Sub-Area :

†E. H. Allon Pask, M.D. (Lond.), L.R.C.P. (Lond.), M.R.C.S. (Eng.). (†24th July, 1913.)

Assistant Medical Superintendent, High Carley Sanatorium :

Henry J. Villiers, L.R.C.P.I. and L.R.C.S.I. (†17th December, 1919.)

† Date of Appointment.

‡ Appointed Medical Superintendent, 1916.

*Medical Superintendent, Elswick Sanatorium, and Consultant Tuberculosis
Officer for Fylde Sub-Area :*

‡George Leggat, M.B., Ch.B., D.P.H. (Aberdeen). (†15th April, 1914.)

Visiting Medical Superintendent, Peel Hall Pulmonary Hospital :
George Jessel, M.A., M.D. (Oxon.), D.P.H. (Manchester).

Visiting Medical Superintendent, Chadderton Pulmonary Hospital :
James Wood, M.B., Ch.B., D.P.H., R.C.P.S.I. (†22nd October, 1919.)

Visiting Physician, Luneside Pulmonary Hospital, Lancaster.
Alan D. Brunwin, M.A., M.D. (Camb.), D.P.H. (Aberdeen).

Tuberculosis Health Visitors :

Nurse	E. Horrocks*	Commenced duties	11th May, 1914.
"	C. E. Munro	"	1st June, 1914.
"	M. A. Potter	"	1st June, 1914.
"	R. Lambert*	"	12th June, 1914.
"	E. Walch	"	15th June, 1914.
"	H. Dewsnap*	"	7th December, 1914.
"	A. Munro*	"	5th July, 1915.
"	M. Duggan*	"	30th August, 1915.
"	R. Davison	"	6th September, 1915.
"	L. Walker*	"	6th September, 1915.
"	J. Skelcher	"	26th April, 1916.
"	A. Tweedy*	"	17th January, 1917.
"	E. Whelan*	"	11th April, 1917.
"	I. Laing*	"	20th May, 1918.
"	E. Walters*	"	1st October, 1918.
"	I. F. Macdonald*	"	2nd October, 1918.
"	F. D. Abbott*	"	1st July, 1919.
"	C. Guilfoyle*	"	1st July, 1919.
"	M. J. Wilson	"	1st July, 1919.
"	A. Brown*	"	1st December, 1919.
"	M. B. Jones	"	1st December, 1919.
"	L. F. Norwood	"	5th January, 1920.
"	A. G. Ward	"	2nd February, 1920.
"	E. Watterson*	"	19th July, 1920.
"	E. A. Duston	"	1st February, 1921.
"	F. Milnes*	"	1st March, 1921.
"	H. M. Shakespeare*	"	1st March, 1921.
"	F. G. Smith	"	1st November, 1921.
"	S. T. Bamber	"	2nd October, 1922.

* Possesses a health visitor's or sanitary certificate.

† Date of Appointment.

‡ Appointed Medical Superintendent, 1919.

REPORT

OF THE

CENTRAL TUBERCULOSIS OFFICER

FOR THE YEAR 1921.

To the Lancashire County Council.

Mr. Chairman, Mrs. Orme, and Gentlemen,

I have the honour to submit the eighth Annual Report on the work of the Tuberculosis Department.

Cases and Deaths.

The population to be dealt with under the County Scheme was estimated at the end of the year to be 1,758,738 ; the Census taken in June, 1921, revealed the actual population to be 1,746,418 (males 829,702, females 916,716).

The notifications and deaths from tuberculosis in 1921 were as under :—

Notifications.			Deaths.		
Pulmonary.	Non-Pulmonary.	Total.	Pulmonary.	Non-Pulmonary.	Total.
2,044	899	2,943	1,301	376	1,677

and the averages for the eight years, 1913-1920 were :—

2,522	1,100	3,622	1,520	472	1,992
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The notified cases of pulmonary tuberculosis were less than in any previous year.

The County death-rate from pulmonary tuberculosis for 1921 was 0·73 per cent. of the population, and for non-pulmonary 0·22. *Both rates are the lowest ever recorded in the County*, and it is satisfactory to note that the decline in the pulmonary rate, which commenced in 1919 after the war, continued in 1920 and 1921. The death-rate in Lancashire is also lower than the death-rates for England and Wales, the West Riding of Yorkshire, Kent, Manchester, Liverpool and several other large cities. Despite causes acting in favour of the spread of the disease, such as the present widespread unemployment, it is hoped and confidently expected that the existing measures dealing with tuberculosis will result in its gradual diminution.

Late Notification and Non-Notification of Cases.

Of the total deaths from pulmonary tuberculosis, in 90 per cent. notification of the cases had been previously made under the Regulations, whilst in the remaining 10 per cent. it had not. This latter figure is a substantial improvement on previous years, the proportion in 1920 being 13 per cent.; 1919, 16 per cent.; and 1918, 18 per cent. The number of persons notified as suffering from pulmonary tuberculosis in which death took place within three months of the date of notification equalled 28 per cent., against 26 per cent. in 1920, and 27 per cent. in 1919. An attempt has been made to ascertain the reasons for late notification, and also for non-notification of cases, and the problem is dealt with fully on pages 4 to 10, where the conclusions arrived at, as the result of special enquiries, are given. Briefly, it was found that in a large proportion of instances satisfactory reasons existed to account for the late notification or non-notification.

The Dispensary Organisation.

The efficiency of the special work undertaken in the County scheme depends directly on the dispensary organisation set up, the importance of which cannot be too strongly emphasised, because the whole basis of the work of the dispensary staff is towards early diagnosis and prevention rather than cure.

The work accomplished by the full staff of tuberculosis officers in 1921 shows a big increase on the previous year, due mainly to the larger number of contacts examined. Altogether, the medical staff visited 7,596 persons at their homes, and, in addition, examined 4,070 new patients at the dispensaries for diagnostic or consultative purposes. The attendance of "old" patients at the 22 dispensaries in use numbered 23,176. The tuberculosis health visitors made 56,141 visits and re-visits to patients' homes.

Co-operation with Sanitary Authorities, Medical Practitioners, and Health Officials.

The co-operation with local sanitary authorities (which number 122 in the County area), with medical officers of health, sanitary inspectors, and also with medical practitioners has been of a cordial and satisfactory character. In 1921, 69 per cent. of the new cases (excluding contacts) examined by the tuberculosis officers had been referred to them by general practitioners, Pensions officials, school medical officers, and other health officials for an opinion as to diagnosis or treatment prior to the particulars of the notification being received by the tuberculosis staff.

Housing Conditions.

The following table gives the housing conditions of County patients at the end of 1921 :—

	Patients occupying separate bedroom.		Patients occupying separate bed but not separate bedroom.		Not separate bed.	
	No.	%	No.	%	No.	%
Total No. of Pulmonary cases <i>considered infectious or contagious</i> ...	1144	61·7	393	21·2	317	17·1
Total No. of Pulmonary cases <i>not considered infectious or contagious</i> ...	1343	35·3	796	20·9	1664	43·8
Total No. of Non-Pulmonary cases ...	514	23·9	606	28·2	1030	47·9

The action of the County Council in sanctioning the purchase of a stock of bedsteads and mattresses, along with certain nursing requisites, for loan to necessitous cases has proved of valuable assistance in securing the better accommodation at home of persons with pulmonary tuberculosis considered to be infectious or contagious. The improvement becomes most noticeable when the housing conditions as at the end of 1921 are compared with those at the end of 1919, when no bedsteads were available. Of the total number of such infectious pulmonary cases at the end of 1921, 62 per cent. occupied a separate room, against 47 per cent. in 1919, and only 17 per cent. had no separate bed or room, against 31 per cent. in 1919.

The better sleeping accommodation of these infectious patients is having, and is bound to have, a considerable effect on the spread of infection.

X-Ray Work.

Since the publication of the last report, considerable progress has been made in the provision of X-Ray apparatus in the various Dispensary Areas. In addition to the apparatus at Ashton-under-Lyne Dispensary (serving Area No. 3), installations have been put in at the Lancaster Dispensary (Area No. 1), Darwen Dispensary (Area No. 2), Eccles Dispensary (Area No. 4), and at the High Carley Sanatorium. With the exception of Darwen, the various plants belong to the County Council, and were acquired at a reasonable cost. X-Ray plants are of great assistance to the tuberculosis officers in diagnosing cases of pulmonary and non-pulmonary tuberculosis, forming important supplements to the usual clinical examinations. These installations will be invaluable also in the control of artificial pneumothorax.

After-Histories of Patients who received Sanatorium and Home Treatment.

In the present report, the after-histories of a net number of 4,067 patients have been specially reviewed as at the end of 1921, and entirely new tables have been compiled showing the results of sanatorium and home treatment. Of this number, 2,310 received sanatorium treatment associated with home treatment and dispensary supervision, and 1,757 had home treatment combined with dispensary supervision but not sanatorium treatment. The results are given on pages 57 to 63. From this investigation, certain conclusions, as under, have been arrived at.

(a) In regard to the 2,310 patients who received one or more courses of sanatorium treatment, associated with home treatment and dispensary supervision or treatment :—

1.—That out of a total of 1,262 “ early ” stage patients who commenced treatment during the five years 1914-18, 822, or 65·1 per cent. were fit for work at the end of 1921, and 120, or 9·5 per cent., were living, but unfit for work ; similarly, out of a total of 1,048 “ intermediate ” stage cases, 333, or 31·7 per cent., were fit for work at the end of 1921, and 115, or 10·9 per cent., were living, but unfit for work.

2.—That the diagnosis of the disease whilst it is in the early stages is of the utmost importance.

3.—That treatment afforded to patients in the early stages of the disease who have a negative or absent sputum is three or four times more successful than when the sputum has become positive ; and in the case of patients in the “ intermediate ” stages, those with a negative or absent sputum benefit at least twice as much in comparison with positive sputum cases.

4.—That the mortality from pulmonary tuberculosis is greater among patients with a positive sputum aged between 15 and 25 years than in the other age groups.

5.—That the mortality from pulmonary tuberculosis is slightly heavier among females with a positive sputum than males, and is almost the same for both sexes when the sputum is negative or absent.

(b) With reference to the analysis of the after-histories of 2,310 patients who have undergone sanatorium treatment, contrasted with 1,757 patients who received home treatment :—

1.—As the result of the analysis of 4,067 histories of adults commencing treatment during the five years 1914-18, so far as comparison is possible, patients in the early and intermediate stages of pulmonary tuberculosis who have undergone a course of sanatorium treatment, even for three or four months, fare appreciably better in health in later years than those who do not receive such form of treatment. Thus, of 1,047 patients, early

and intermediate stages, with negative or absent sputum receiving sanatorium treatment, the deaths were 14·0 per cent; whereas of 799 patients receiving home treatment, the deaths were 37·7 per cent. On the other hand, of 1,263 cases with positive sputum receiving sanatorium treatment, the deaths were 61·2 per cent. as against 81·3 per cent. amongst 958 home treatment cases. The difference is not very great, except in negative or absent sputum cases, and, were the two groups scientifically comparable, would raise doubt on the usefulness of sanatorium treatment for certain classes of patients.

2.—Both in regard to sanatorium and non-sanatorium cases, early diagnosis is a very important factor in the successful treatment of pulmonary tuberculosis.

3.—In regard to sanatorium and non-sanatorium cases, patients with a negative or absent sputum throughout treatment are much more likely to remain fit for work and consequently less liable to succumb to the disease than those with tubercle bacilli in the sputum.

Tuberculous Cattle in relation to Non-Pulmonary Tuberculosis.

Early in 1922, the County Tuberculosis Committee considered the subject of tuberculous cattle in relation to non-pulmonary tuberculosis in children and adults, and a copy of my report to them on the matter is printed as Appendix I. to this volume.

The main conclusions contained in the report are as follows :—

- 1.—That on the 31st December, 1920, there were 1,507 children under 16 years of age known to be suffering from non-pulmonary tuberculosis who were under the supervision of the County tuberculosis staff.
- 2.—It is now definitely proved that milk from tuberculous cattle (tuberculosis of the udder) is a cause of tuberculosis in human beings.
- 3.—The tuberculosis which arises is the non-pulmonary type. It occurs most frequently in children, who, when attacked in the bones and joints, become crippled. Some, after expensive treatment, may be cured; some remain cripples for life; others, after a prolonged illness, die. In the Administrative County at the end of 1921 there were 1,009 children suffering from gland, bone and joint tuberculosis, and, if we assume about the same amount of tuberculosis in cattle in Lancashire as elsewhere, the disease has been caused in half, or rather more than half, of these cases by milk from tuberculous cattle.
- 4.—At the present time the County Council is spending, approximately, £7,000 per annum on the institutional treatment of a comparatively few cases of non-pulmonary tuberculosis in

children. To treat all the cases properly, about a *quarter of a million* will be required for the capital expenditure on buildings alone. Would it not be more economical, as well as more reasonable and humane, for the County Council to deal with one important source of infection—diseased cattle—rather than attempt to cure the children and adults after they have contracted the disease ?

Since the special report was written, the Milk and Dairies (Amendment) Act of 1922 has been passed, Section 5 of which is as follows :—

- (1) No person shall, by himself or by any servant or agent, sell or offer or expose for sale the milk of a cow suffering from tuberculosis of the udder, and he shall be guilty of an offence under this section if it is proved that he knew or could by the exercise of ordinary care have ascertained that the cow was suffering from that disease.
- (2) If any person is guilty of an offence under this section, he shall be liable on summary conviction for a first offence to a fine not exceeding twenty pounds, and for a second or subsequent offence to a fine not exceeding one hundred pounds, or to imprisonment with or without hard labour for a period of six months, or to both such fine and imprisonment.

As regards tuberculosis in cattle, the Act is, as far as it goes, an advance on the Contagious Diseases (Animals) Act, 1878. Orders will presumably be submitted by the Ministry of Health to Parliament for the proper carrying out of Section 5, and, if approved, will have to be carried out by local sanitary authorities, or, in their default, by the County Council.

Voluntary Care Committees.

The nine Voluntary Care Committees recognised by the County Council continued to accomplish most valuable work during the year, and the County Tuberculosis Committee have conveyed to them their best thanks for the unsparing efforts made on behalf of tuberculous patients and their families. The population covered by the Care Committees amounts to 517,265, and the number of individual patients assisted during the year was 596, the amount of money spent being £1,760 0s. 10d.

Post-Graduate Course.

In order that the tuberculosis officers might keep themselves conversant with the latest methods of diagnosis and treatment of non-pulmonary tuberculosis, especially in children, arrangements were made at the end of 1921 whereby each tuberculosis officer in turn would be

appointed clinical assistant to Sir Henry Gauvain at the Lord Mayor Treloar Cripples' Hospital and College, Alton, Hants. At the date of this report, five of the senior officers had already completed their course, and a sixth is now there. The tuberculosis officers whilst at the hospital act as honorary clinical assistant to Sir Henry, and the experience gained has been most valuable, and they are now placed in a much better position to deal with the number of non-pulmonary cases referred to them by practitioners for diagnosis and treatment. The methods of treatment of this form of tuberculosis have undergone considerable changes during the past few years, and are greatly in advance of those in vogue some seven or eight years ago.

Visit of Professor Leonard Hill.

Early in 1922 we were honoured by a visit to High Carley Sanatorium of Professor Leonard Hill, the celebrated physiologist and Director of the Medical Research Council. He conducted a number of investigations into the metabolism of patients undergoing treatment at the Sanatorium.

Reconstruction and Alterations in County Records.

On the 1st May, 1921, with the cessation of Sanatorium Benefit as part of the National Health Insurance, the County Council became the sole responsible authority for the special treatment of tuberculosis for both insured and non-insured persons residing in the Administrative County. This very important administrative change serves to simplify the carrying out of the tuberculosis scheme, and it became no longer necessary to keep two sets of records—one for insured and one for non-insured. Advantage has been taken of this in the present report to combine the tables and re-arrange the age groups, so as to correspond with those generally employed in the preparation of mortality statistics, and the figures now presented relate to all persons who have applied for treatment. In addition, many of the tables themselves have been reconstructed, and statistics are now given showing, as simply as possible, the after-history of patients who have received various forms of treatment. I have to thank Dr. R. J. Ewart, medical officer of health of Barking Town, for some helpful criticism in this matter.

I have, in conclusion, to thank the whole medical, nursing, and clerical staffs for their able and willing assistance throughout the year, and also the County public health department for much help in connection with the statistics on notifications and deaths.

I am,

Your obedient Servant,

G. LISSANT COX,

County Offices, Preston,

Central Tuberculosis Officer.

11th October, 1922.

INCIDENCE OF AND MORTALITY FROM TUBERCULOSIS.

The following table shows the cases notified and the deaths registered during 1921 and the preceding eight years :—

TABLE 1.

Year.	Cases Notified.			Deaths.			Death-rate per 1,000 of population.	
	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Total.	Pulmonary Tuberculosis	Non-Pulmonary Tuberculosis	Total.	Pulmonary Tuberculosis	Tuberculosis (all forms).
1913	2,700	1,592	4,292*	1,441	527	1,968	0·82	1·12
1914	2,820	1,140	3,960	1,523	572	2,095	0·87	1·19
1915	2,872	1,128	4,000	1,614	555	2,169	0·96	1·30
1916	2,689	1,180	3,869	1,685	471	2,156	1·04	1·33
1917	2,375	1,062	3,437	1,584	466	2,050	1·00	1·30
1918	2,534	885	3,419	1,652	435	2,087	1·07	1·35
1919	2,105	847	2,952	1,339	358	1,697	0·80	1·02
1920	2,084	968	3,052	1,323	396	1,719	0·76	0·99
1921	2,044	899	2,943	1,301	376	1,677	0·73	0·95

* Notifications during a period of 48 weeks only.

The County death-rate from pulmonary tuberculosis in 1921 is the lowest ever recorded, and is less than half the rate experienced in the County thirty years ago.

The rate for urban districts was 0·76, and for rural districts 0·59, compared with 0·77 and 0·67 respectively last year. The substantial decrease in the rural rate to the extent of ·08 per 1,000 is remarkable.

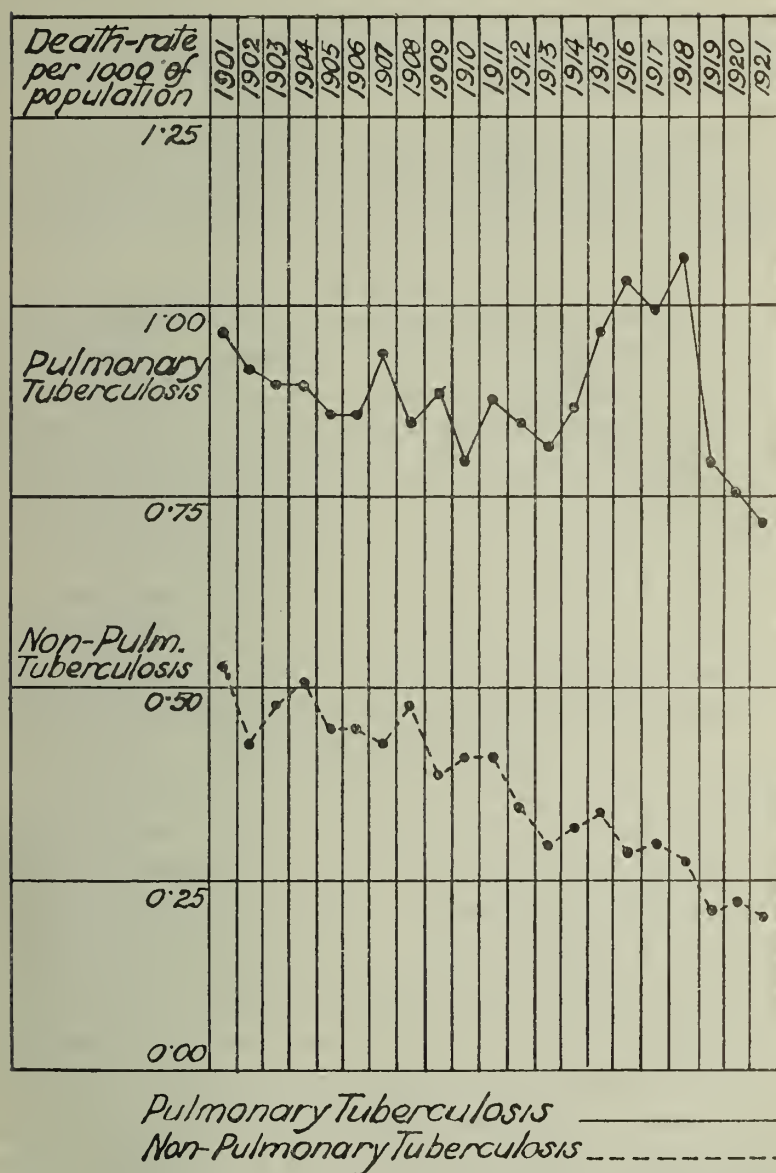
The corresponding death-rates in England and Wales and in several of the large counties and cities were as follows :—

	Pulmonary Tuberculosis.	Tuberculosis (all forms).
England and Wales	0·88	1·12
West Riding of Yorkshire	0·74	1·03
Cheshire	0·61	0·83
Kent	0·81	1·03
Somerset	0·68	0·90
Birmingham	0·97	1·13
Liverpool	1·30	1·66
Manchester	1·31	1·65
Newcastle-upon-Tyne	1·23	1·62

Thus, the rates for the Administrative County, taking into consideration its industrial nature, compare favourably with those obtaining in other areas.

Another cause for gratification is the slightly lessened incidence of the disease as revealed by the case notifications,

ADMINISTRATIVE COUNTY OF LANCASTER—TUBERCULOSIS DEATH-RATES, 1901-1921.



This chart shows in a most graphic manner the rise in the mortality from pulmonary tuberculosis during the war years, 1914-1918 and the decline experienced in 1919 which has continued in 1920 and 1921. The figures now recorded are appreciably less than those experienced in pre-war years.

Altogether, the statistics show a satisfactory improvement over previous years, especially in the face of the large amount of unemployment experienced and resultant poverty, which lowers the powers of resistance of the community and will in 1922 probably cause a slight increase in the death-rate.

The Table below (prepared by the public health department) shows the male and female deaths from *pulmonary* tuberculosis in the Administrative County at various age periods during 1921 and the previous five years :—

TABLE 2.

Year.	Deaths at all ages.	Years.							
		0 to 1	1 to 2	2 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 and up- wards.
MALES—									
1916 ...	900	2	6	11	28	133	392	300	28
1917 ...	827	5	7	6	21	125	380	252	31
1918 ...	844	2	7	8	31	136	370	253	37
1919 ...	675	4	4	8	20	98	286	225	30
1920 ...	729	6	2	5	21	116	292	257	30
1921 ...	682	2	—	3	15	104	302	236	20
FEMALES—									
1916 ...	785	3	9	11	68	180	370	129	15
1917 ...	757	4	4	11	63	196	333	133	13
1918 ...	808	2	1	4	55	215	373	139	19
1919 ...	664	2	4	8	45	167	293	118	27
1920 ...	594	2	7	5	28	166	257	114	15
1921 ...	619	2	1	2	34	156	298	110	16

The deaths of males greatly predominate over females among ages 45 to 65 years; in the groups up to age 25 the higher mortality is on the side of the females, whilst among ages 25 to 45 the mortality in 1921 is almost equal for both sexes.

The improvement in the mortality rate for pulmonary tuberculosis is brought about by the reduction in the male deaths, which more than counterbalances a small increase among the females.

The excess mortality in 1920-1921 of males over that of females is shown in the table below :—

TABLE 3.—*Male and Female Death-rates.*

	Census Population 1921 (Provisional).	Death-rate per 1,000 of Population according to sex.					
		Pulmonary Tuberculosis		Non- Pulmonary Tuberculosis.		Tuberculosis (all forms).	
		M.	F.	M.	F.	M.	F.
1920	M. 829,702	0·88	0·65	0·24	0·21	1·13	0·86
1921	F. 916,716	0·82	0·67	0·24	0·18	1·07	0·86

The notifications and deaths from tuberculosis are dealt with further in Appendix II., where tables are inserted analysing the notifications in 1921 as regards the parts of the body affected and in age and sex groups.

Of the 1,677 deaths from tuberculosis recorded in 1921, 1,010, or 60·2 per cent., were of patients who had made application for treatment to the County Council.

CASE NOTIFICATIONS COMPARED WITH REPORTED DEATHS FROM TUBERCULOSIS.

In my reports for the preceding six years 1915-1920, statistics supplied by the County public health department have been given showing that a considerable number of persons in the Administrative County died each year from tuberculosis *without any notification of the case under the Public Health (Tuberculosis) Regulations, 1912, reaching the County Medical Officer*, and also showing that *at least an equal number of persons died from pulmonary tuberculosis within three months of the date of notification.*

The investigations necessary to enable these statistics to be prepared have been continued in the year under report.

The total fatalities from tuberculosis in the Administrative County Area during 1921 numbered 1,677—pulmonary 1,301, non-pulmonary 376.

By arrangement, local registrars of deaths forward to the County tuberculosis department details of all deaths from tuberculosis, and these have been compared with the case notifications.

The record of each death from tuberculosis has been carefully scrutinised, so that, as far as possible, all deaths that do not properly belong to the Administrative County have been excluded from these figures.

The total number of deaths from tuberculosis in the year ended 31st December, 1921, and during the five preceding years, of persons *not notified* was :—

1916	Pulmonary (Consumption)	270 ;	Non-Pulmonary,	147 ;	Total,	417
1917	„	256 ;	„	141 ;	„	397
1918	„	303 ;	„	137 ;	„	440
1919	„	221 ;	„	104 ;	„	325
1920	„	177 ;	„	122 ;	„	299
1921	„	135 ;	„	96 ;	„	231

The 1921 figures are analysed in the following table :—

TABLE 4.

Deaths from Tuberculosis in 1921 of cases not previously notified under the Regulations.

	Cause of Death.			Total.
	Pulmonary. Primary.	Secondary	Non- Pulmonary	
No. of deaths of persons at private addresses	88	6	77	171
No. in County Asylums of persons belonging to County area	15	...	1	16
No. in workhouses of persons belonging to County area	18	...	3	21
No. in other public institutions of persons belonging to County area	7	1	15	23
	128	7	96	231
	135			

As the total deaths in the Administrative County in 1921 from *pulmonary* tuberculosis numbered 1,301, the 135 *non-notified fatal cases* amounted to 10 per cent., as compared with 13 per cent. last year, 16 per cent. in 1919, 18 per cent. in 1918, and 16 per cent. in each of the years 1917 and 1916.

It is satisfactory to note a further decline in 1921 in the number of these non-notified fatal cases in the aggregate, and in the percentage ; the present figures are by far the most favourable yet reported, and if the improvement can only be continued, the number of such deaths will, within a few years, become an almost negligible quantity.

The County public health department is regularly supplied by the Registrar-General with a list of deaths of persons whose usual place of residence is *within* the County area, but who died in districts *outside* the Administrative County. For the year 1921 there were 169 such deaths from tuberculosis (pulmonary 114, non-pulmonary 55). Of these, 159 (pulmonary 105, non-pulmonary 54) occurred in public institutions, mostly Union hospitals or infirmaries, or lunatic asylums. In 64 instances no notification of the cases under the Tuberculosis Regulations had been received at the County public health department. *These are in addition to the 231 deaths referred to in Table 4.*

Three objects are served by a notification of a case of tuberculosis : first, the local sanitary authority is made aware of what may be, or will be, a case of infectious disease, and, through the information received will be in a position to deal with it ; second, the person comes under the County organisation dealing with the disease, and can then receive the advice and assistance of the tuberculosis officer and such treatment as is recommended can be given under the County scheme ; third, the examination of " contacts " is made possible.

SPECIAL ENQUIRY INTO 81 DEATHS FROM TUBERCULOSIS OF CASES NOT PREVIOUSLY NOTIFIED.

As under the Public Health (Tuberculosis) Regulations, 1912, a medical practitioner is required to notify every case to the local medical officer of health within 48 hours of diagnosis, it is a matter of considerable importance to ascertain the circumstances under which notification came to be omitted. As attempted last year, action in this direction has been taken, particulars having been obtained during part of 1922 of all deaths which occurred of cases not previously notified. This special enquiry may be regarded as complementary to Table 4 on the previous page.

The period taken on this occasion extended from 1st January, 1922, to the 30th June, 1922, and during this time 116 of such deaths were recorded—68 pulmonary and 48 non-pulmonary. Of this number, 35 occurred in public institutions, leaving for enquiry 81 deaths—43 pulmonary and 38 non-pulmonary.

The result of the investigations revealed the reasons for non-notification to be as summarised below :—

TABLE 5.—*Circumstances of Non-Notification of fatal cases.*

	Period, 14th Oct. 1920, to 30th June, 1921.			Period, 1st Jan. 1922, to 30th June, 1922.		
	Pul- monary.	Non- Pul- monary.	Total Deaths.	Pul- monary.	Non- Pul- monary.	Total Deaths.
Doctor in attendance shortly before death—						
1 week or less	3	8	} 24	5	4	} 22
1 to 2 weeks	2	8		2	7	
2 to 3 weeks	...	3		1	3	
Misinterpretation of Tuber- culosis Regulations and notification believed un- necessary—						
Cases previously notified in another area ...	5	1	} 16	5	1	} 21
Disease of long duration, prior to compulsory notification	1	...		3	1	
Temporary resident ...	...	1		2	1	
Cases known to Tuber- culosis Officers—con- siderable doubt as to diagnosis in some of these cases	7	1	} 12	7	1	} 12
Attended by more than one doctor, and notification believed to have been made by first practitioner ...	9	8		5	7	
Notification sent to wrong authority	...	...	...	1	...	1
Complicated cases, presenting difficulty in diagnosis ...	6	19	25	6	4	10
Accidental omission to notify	5	7	12	2	3	5
No apparent reason for non- notification	4	4	8	2	5	7
Information not ascertained (no reply received to en- quiries)	3	...	3	2	1	3
	45	60	105	43	38	81

The following conclusions may be deduced from the foregoing table :—

1.—That in 8·6 per cent. of the deaths there was apparently no reasonable excuse for non-notification.

2.—That in 42 per cent. of the deaths, notification was not made owing to a misunderstanding of the Tuberculosis Regulations, or to the belief that the case had already been notified.

3.—From the above, it is clear that Article V. of the Tuberculosis Regulations, directing that a practitioner “shall not notify a case . . . if he has reasonable grounds for believing that the case has already been notified . . . to the medical officer of health for the district within which the place of residence of the person is situate,” is the cause of much misunderstanding, resulting in omissions to notify, and should be amended. It would be much better, in the public interest, that doctors be encouraged to notify every case coming under their notice, even at the expense of some duplicate notifications, rather than the present misunderstanding should continue.

With regard to the instances—accounting for 27 per cent. of the deaths—where the doctor was called in a few days prior to death, such cases relate chiefly to children with meningitis, and much improvement in notification cannot be expected.

DEATHS OF 393 PERSONS NOTIFIED AS SUFFERING FROM PULMONARY TUBERCULOSIS WITHIN THREE MONTHS OF NOTIFICATION.

The examination of the notifications and the death returns show that in the year under report 393 deaths (376 pulmonary and 17 non-pulmonary—analysed in table in Appendix II.) took place in the County Area of persons notified as suffering from tuberculosis within three months of the date of notification of the case. This is equal to 28 per cent. of the total pulmonary deaths, compared with 26 per cent. in 1920, 27 in 1919, 25 in 1918, 27 in 1917, 28 in 1916, and 26 in 1915.

At a first glance it would appear that no improvement was taking place with regard to these cases. But throughout the County co-operation between the general practitioners and the tuberculosis officers is very good, some 69 per cent. of the new cases in 1921 being referred to the dispensary staff for examination or opinion as to diagnosis prior to

In addition to the foregoing 393 deaths which occurred within three months of notification, two cases notified as non-pulmonary tuberculosis were reported to have died from pulmonary tuberculosis. In 17 other instances (all pulmonary) death took place before the receipt of the notification, against 21 in the preceding year.

notification being made. In view of this, during the year under report, special attention has been directed to these 393 deaths occurring within three months of notification, and all the information available in regard to each individual case has been examined to ascertain, where possible, the nature of the circumstances operating against earlier notification.

The particulars so obtained are tabulated below, and the conclusions arrived at are also given.

TABLE 6.

(a) *Circumstances attending 393 deaths occurring within three months of notification.*

Total number of such deaths in 1921 notified as due to pulmonary tuberculosis	393
Cases about which no information is available	36
Net number of cases investigated	357

Deductions.

Cases notified as suffering from pulmonary tuberculosis, but death certified as non-pulmonary	27
Tuberculous patients who removed into County Area (including temporary residents)	18
Died in Public Institutions	25
Patient not under doctor when first examined by tuberculosis officer	1
Attended by two doctors, and notification delayed in the belief that it had already been made by first practitioner	1
Cases known to tuberculosis officer prior to notification, and first examined by him <i>more</i> than three months before death	21
Complicated cases, many presenting difficulty in diagnosis	15
Number of fulminating cases ("galloping consumption").	
Period between doctor's first attendance and patient's death :—	
0-1 week	6
1-2 weeks	1
2-4 weeks	6
4-6 weeks	6
	— 19
	— 127
Leaving a balance of <i>prima facie</i> late notifications for investigation in tables (b) and (c) following	230

Table 6 (continued).—(b) *Cases known to Tuberculosis Officer prior to notification and first examined by him less than three months before death.*

Period between date of Tuberculosis Officer's first examination and death.	Stage on first examination by Tuberculosis Officer.	Sputum.	Period under doctor at date of Tuberculosis Officer's first examination.					Total.	
			Months.						
			Under 1.	1 to 2.	2 to 3.	3 to 6.	6 and over.		
Under 1 month ...	I.	Pos.	1	...	...	...	...	13	
		Neg.	...	...	...	...	...		
	II.	Pos.	...	3	...	...	...		
		Neg.	1	...	...	...	...		
	III.	Pos.	3	1	...	1	1		
		Neg.	1	...	...	...	1		
1 to 2 months ...			6	4	...	1	2		25
	I.	Pos.	...	...	...	...	...		
		Neg.	...	...	...	...	...		
	II.	Pos.	3	3	...	...	1		
		Neg.	...	1	2	...	...		
	III.	Pos.	9	4	...	1	...		
		Neg.	...	...	...	1	...		
			12	8	2	2	1		
	2 to 3 months ...	I.	Pos.	1	1	...	...	1	
		Neg.	2	...	...	...	...		
	II.	Pos.	4	2	1	2	2		
		Neg.	1	...	...	...	1		
2 to 3 months ...	III.	Pos.	4	8	3	...	1		
		Neg.	2	2	...	...	...		
			14	13	4	2	5		
			32	25	6	5	8		
Total under 3 months ...	...	...	32	25	6	5	8	76	

Table 6 (continued).—(c) *Cases dying within three months of notification and not seen by Tuberculosis Officer prior to notification.*

Period between date of case notification and death.	Period under doctor at date of case notification.					Total.
	Months—					
	Under 1.	1 to 2.	2 to 3.	3 to 6.	6 and over.	
Under 1 month	33	6	3	6	9	57
1 to 2 months	18	7	13	9	7	54
2 to 3 months	16	12	4	7	4	43
Total	67	25	20	22	20	154

The object of this investigation has been to attempt to separate cases in which late notification was due to satisfactory reasons from those in which late notification was apparently unjustifiable. With this in mind, the following conclusions have been arrived at by a study of the foregoing tables accounting for 357 of the deaths, which with the 36 cases where no information is available, make up the total of 393 deaths :—

1.—That the 357 deaths investigated which occurred in 1921 within three months of notification can be reduced by so much as 276, or 77·3 per cent., when allowance is made for fulminating cases, complicated cases presenting difficulty in diagnosis, deaths in public institutions, patients who had been attending their doctors for less than two months prior to notification, cases known to the tuberculosis officer for more than three months prior to death, and for certain lay reasons, *e.g.*, removals into County and patients without doctor.

2.—That in the remaining 81 cases, representing 22·7 per cent., the patients had been under their doctors two or more months prior to the date of notification or the date of the first examination by the tuberculosis officer. After making deductions for obstinate patients and those who do not disclose their symptoms to the doctor for some weeks, there is a residue of cases, equal probably to not more than 12 per cent., of the 357 deaths where notification has been unduly delayed.

3.—That, as in the case of advanced patients dealt with on page 17, the tables 6 (*b*) and (*c*) show that, excluding fulminating cases, a considerable number of patients (*i.e.*, 149) delayed consulting their doctors until a date which proved to be within two months or less of death.

APPLICATIONS FOR TREATMENT.

From Table 7 below, it will be observed that the total number of applications of persons for treatment during 1921 was 2,264; in addition, there were 37 who applied in 1920, but did not receive treatment until 1921. Of these 2,301 persons, 1,456 were pulmonary cases (consumption), 566 non-pulmonary cases, in 171 cases the diagnosis was not confirmed, 73 cases were pulmonary and non-pulmonary combined, and 35 either declined treatment, removed to another area before treatment commenced, or application was under consideration on 31st Dec., 1921.

Applications received in previous years were: 1920, 2,434; 1919, 2,168; 1918, 2,309; and average for 1914-17, 1,790.

TABLE 7.—*Showing the number of persons who applied and were recommended for treatment during the period 1st January to 31st December, 1921, inclusive.*

	Number of Applicants		Not Treated.*	Received Treatment.			
	Applying in 1920, but not treated until 1921.	Applications received during 1921.		Pulmonary Cases.	Non-Pulmonary Cases.	Pulmonary and Non-Pulmonary	Diagnosis not Confirmed.
Men	28	890	10	691	128	16	73
Women	8	822	13	592	151	21	52
Boys	...	282	9	72	154	23	24
Girls	1	270	3	101	133	13	21
TOTALS	37	2264	35	1456	566	73	171
	2301						

* (i.) On expert examination found not to be suffering from tuberculosis; (ii.) removed to another area; (iii.) declined the treatment for which recommended; (iv.) died before treatment was recommended; (v.) five applications under consideration on 31st December, 1921.

N.B.—In this table a person who received treatment within the period appears once only, even though he has received treatment in more than one form.

During 1921, there were 2,943 cases notified under the Public Health (Tuberculosis) Regulations as suffering from tuberculosis (all forms); whereas the number of persons who applied for treatment to the County Council was 2,264, equal to 76·9 per cent. of the notifications. The cases notified in 1920 who applied in 1921 may be taken as equivalent to the 1921 notifications applying in 1922.

This figure represents only roughly the percentage of notified cases applying for treatment, as, to be strictly accurate, minor adjustments are required for doubtful cases, removals, and cases where the diagnosis

was not confirmed. With regard to the balance (approximately 23·1 per cent.) of the notifications where the patients did not apply to the County Council for treatment, the principal reasons for this were: patients suffering from meningitis or other fatal forms of the disease, patients removed out of county area, cases in which the diagnosis was not confirmed and no treatment required, and patients who, for some reason or other, did not wish to avail themselves of the benefits under the county scheme.

To obtain the exact proportion of the number of notified cases in 1921 who applied for treatment, it would be necessary to make a careful scrutiny of the 2,943 notifications received, and, although it has not been possible to do this for the whole of the Administrative County, the Consultant Tuberculosis Officer for dispensary area No. 3 (Dr. J. Logan Stewart) has extracted interesting statistics for his own area, which consists of 25 urban or rural districts with a total estimated population of 376,770. In this area, 636 cases were notified during 1921, and the results of the investigation may be summarised as follows:—

	No. of Cases.		Percentage.	
Number of persons who applied for treatment under the scheme of the County Council	419	...	65·9	
Number of persons who died within several days of notification and before examination by the tuberculosis officer	58	...	9·1	
Number of cases where diagnosis of tuberculosis subsequently not confirmed	41	...	6·4	
Total number of cases of meningitis (tuberculosis of the brain)	30	...	4·7	
Number of cases in asylums, union infirmaries, and other public institutions	16	...	2·5	
Number of persons who removed out of district several days after notification and before examination by the tuberculosis officer ...	12	...	1·9	
Number of persons too ill to apply for treatment ...	7	...	1·1	
Number of persons who refused to apply for treatment under the County Scheme—				
Pulmonary	28	...	6·6	} 8·3
Non-Pulmonary	25	...	11·4	
Total notifications in Dispensary Area No. 3 during 1921	636	...	100·0	

Thus, only 8·3 per cent. of the total new cases notified in dispensary area No. 3 during 1921 declined to avail themselves of the facilities for special treatment provided under the county scheme, and this may be regarded as satisfactory. The figure may be taken as typical of the experience in the remainder of the county.

STAGE OF DISEASE OF ADULT PATIENTS SUFFERING FROM PULMONARY TUBERCULOSIS AT THE TIME OF APPLICATION FOR TREATMENT.

During 1921, applications for treatment were received from 1,320 new adult patients (*i.e.*, 15 years and over), and these were reported by the tuberculosis officers to be in the undermentioned stages of the disease on the first examination :—

Early, or first stage ...	...	415, or 31.4 per cent.
Intermediate, or second stage	538, or 40.7	„
Advanced, or third stage ...	319, or 24.2	„
Diagnosis doubtful ...	48, or 3.7	„
	<u>1,320</u>	<u>100.0</u>

In regard to the “doubtful” cases, it has been the practice to review the diagnosis at the end of the particular year of application, and if by then the case has been definitely established to be tuberculosis, it is classified under the appropriate stage. Thus, in 1921, on the first examination by the tuberculosis officer, there were 143 patients in whom the disease was “doubtful,” but as the result of subsequent examinations 95 were definitely diagnosed and disposed of to the various stages (stage I. 59, stage II. 30, and stage III. 6), leaving 48 still “doubtful” at the end of the year.

In previous reports the statistics given as to the stage of disease of new applicants related to insured persons only, but with the abolition of the necessity for this distinction as regards tuberculous patients, the figures for preceding years have been recast as follows, so as to include all adults (aged 15 years and over) suffering from pulmonary tuberculosis :—

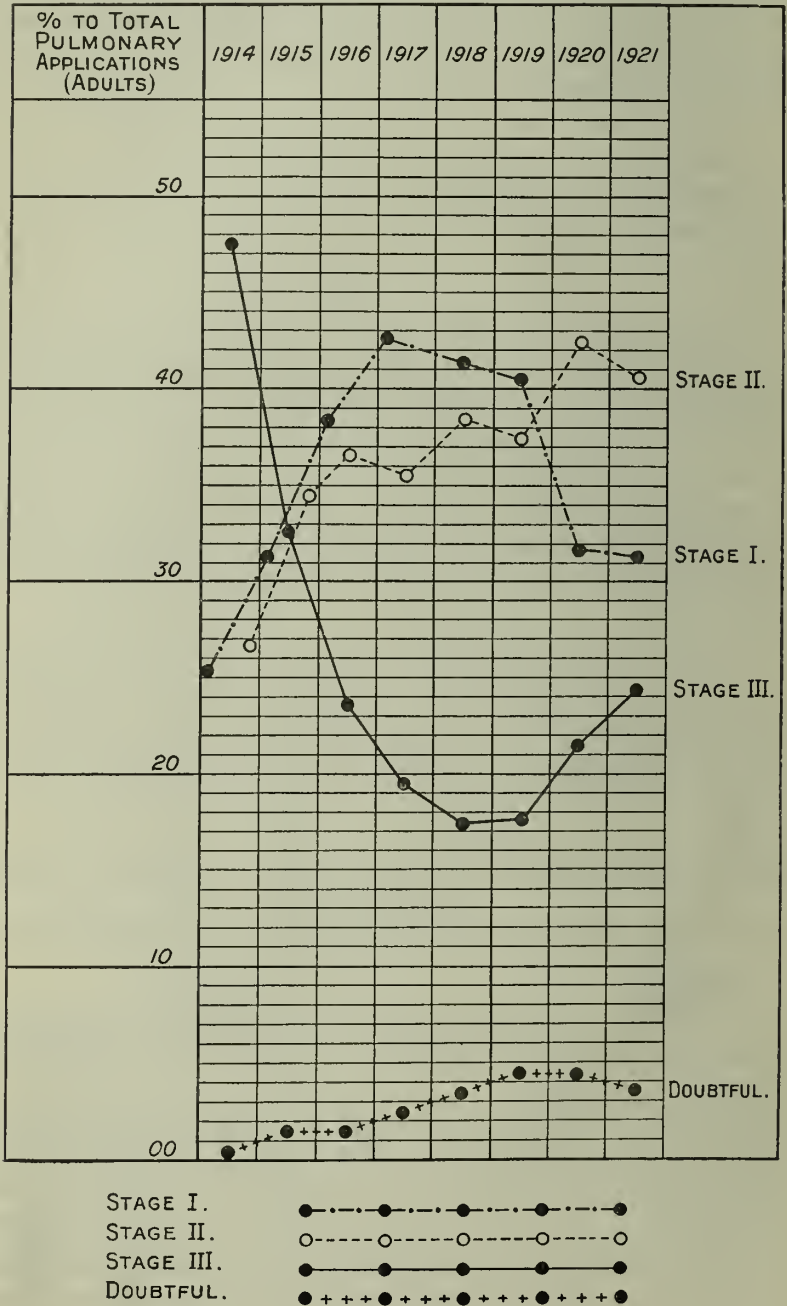
TABLE 8.—*Stage of disease of new adult patients applying for treatment since 1914.*

Pulmonary Tuberculosis.	Year of Application.							
	1914.	1915.	1916.	1917.	1918.	1919.	1920.	1921.
†Stage I. ...	305	457	544	615	629	598	454	415
†Stage II. ...	326	507	526	512	586	551	604	538
†Stage III. ...	578	484	340	278	260	264	307	319
Doubtful ...	...	20	20	29	48	64	58	48
Total ...	1209	1468	1430	1434	1523	1477	1423	1320

† Classified according to the system of Turban-Gerhardt.

The position in comparison with previous years in percentages to total applications may be more readily seen from the following chart :—

STAGE OF DISEASE OF NEW CASES (ADULTS, 15 YEARS AND OVER).



It is to be regretted that the figures for 1921 show no improvement on the previous year, and are, in fact, more unfavourable than any since 1915, in so far as no less than 64·9 per cent. of the patients were in the intermediate or advanced stage of the disease at the time of application. This high figure is the more remarkable when 69 per cent. of all new cases (excluding contacts) are seen by the tuberculosis officers in consultation with the family doctor before notification of the case.

The problem of so many patients delaying their application for treatment until in an advanced stage of the disease was mentioned in the annual report of the chief medical officer of the Ministry of Health in 1920, and from this report it would appear that the experience is general throughout the country. It is stated that "in many areas a large proportion of notified cases are in a very late stage of the disease at the time of the notification, and in a not inconsiderable number of instances notifications do not reach the medical officers of health until after the death of the patient."

The percentage of advanced pulmonary cases (24·2) in the County has been compared with that of other administrative areas, and figures kindly supplied to me range from 20 to 41 per cent.

We have already seen that 319, or 24·2 per cent., of the new patients delayed their application for treatment till in an advanced stage of the disease, and such patients were referred or became known to the tuberculosis officers through the following sources :—

Cases examined at request of patient's own doctor	...	145
Cases examined at request of Pensions authorities	...	10
Cases examined at request of school medical officer	...	4
Cases detected by tuberculosis officer during examination of contacts		5
		— 164
By notification of case under Public Health (Tuberculosis) Regulations, 1912		155
		—
		319
		=====

The following table shows in concise form the period these advanced cases had been ill (based on their statements to the tuberculosis officer), and also the period they had been under their own doctor measured from the date of examination by the tuberculosis officer or the date of notification of the case, whichever is the earlier :—

TABLE 9.—*Advanced adult new patients in 1921—Duration of illness and period under doctor.*

Duration of Patients' Illness.	Number of Patients	SPUTUM.		No doctor.	Period under Medical Attendant at date of T.O.'s examination or at notification .									
		Pos.	Neg. or None.		Months.									
					Under 1	1 to 2	2 to 3	3 to 4	4 to 5	5 to 6	6 to 9	9 to 12	12 and over.	
Under 1 month ...	20	16	4	2	18	...	...	...	...	...	...	...	...	
1 to 2 months ...	44	34	10	...	19	25	...	...	...	...	...	...	...	
2 to 3 months ...	28	23	5	...	15	8	5	...	...	...	...	...	...	
3 to 4 months ...	25	21	4	...	9	3	2	11	...	...	...	...	...	
4 to 6 months ...	38	37	1	...	13	9	4	1	2	9	...	...	...	
6 to 9 months ...	32	27	5	...	15	7	4	1	...	4	1	...	...	
9 to 12 months ...	10	9	1	2	2	4	...	...	...	...	...	2	...	
12 months and over ...	122	102	20	3	41	17	14	2	5	2	4	...	34	
TOTALS ...	319	269	50	7	132	73	29	15	7	15	5	2	34	
Percentage to total advanced cases ...	100	84.3	15.7	2.2	41.3	22.8	9.0	4.7	2.2	4.7	1.6	0.6	10.9	
					66.3									

The following conclusions may be drawn from the particulars given as to the stage of disease of adult patients suffering from pulmonary tuberculosis at the time of applying for treatment :—

1.—That altogether 66.3 per cent. of the cases either had no doctor or had only been attending their doctor for less than two months when first examined by the tuberculosis officer or notified.

2.—After making allowance for a percentage of fulminating cases, a large proportion—about three-fourths—of patients had been feeling ill one month or more before consulting a doctor.

3.—The reason for late notification and patients delaying their application until in an advanced stage of the disease is chiefly the unwillingness of the patients to report themselves to the doctor when feeling ill. This is due to the insidious onset of the disease, the discomfort being only slight at first.

4.—There does not appear to be evidence in any large number of cases of unreasonable delay in patients being referred by their doctor to the tuberculosis officer.

5.—The initiative to seek treatment when ill must of necessity rest with the patient himself, and the public must, therefore, be educated as to the usual symptoms and common dangers of tuberculosis and the need for securing prompt treatment.

The tuberculosis medical staff have to depend very largely on the general practitioners throughout the County for bringing forward tuberculous patients, and it is satisfactory to note that, as reported on page 26, 68·9 per cent. of new cases are sent *before notification* to the tuberculosis officers for an opinion as to diagnosis. Too much importance is laid by many doctors on sputum examinations alone, and often too much time is allowed to elapse in order that the sputum may be tested, or steps are not taken in reporting the case until it is returned as positive.

The following table shows that even after treatment is begun in the early stages of the disease (*i.e.*, I. and I.S.), treatment after a positive sputum makes a fatal result three or four times more likely to happen than after the sputum is negative or absent :—

TABLE 10.

Year of Application for Treatment.	Sputum.†	Stage I. and I.S. ("EARLY" cases).			Stage II. and I.I.S. ("Intermediate" cases).		
		Net No. of Adult Patients who received Treatment (all forms).	Deaths (up to 31st Dec., 1921).		Net No. of Adult Patients who received Treatment (all forms).	Deaths (up to 31st Dec., 1921).	
			No.	%		No.	%
1914 ...	Positive ...	59	33	55·9	152	118	77·6
	Neg. or None	115	21	18·3	99	51	51·5
1915 ...	Positive ...	118	82	69·5	297	238	80·1
	Neg. or None	186	43	23·1	125	60	48·0
1916 ...	Positive ...	141	87	61·7	321	264	82·2
	Neg. or None	284	38	13·4	124	52	41·9
1917 ...	Positive ...	189	86	45·5	348	271	77·9
	Neg. or None	311	37	11·9	109	49	44·9
1918 ...	Positive ...	200	81	40·5	396	292	73·7
	Neg. or None	329	42	12·8	161	55	33·5
1919 ...	Positive ...	158	61	38·6	319	218	68·3
	Neg. or None	345	41	11·9	149	47	31·5
1920 ...	Positive ...	155	59	38·1	383	205	53·5
	Neg. or None	239	26	10·9	154	40	25·9

† Where sputum is given as positive, tubercle bacilli have been found on one or more occasions during treatment.

PERSONAL ERROR IN DIAGNOSIS.

Prominence has often been given in the medical and lay press to the "personal error" committed by tuberculosis officers in wrongly diagnosing cases of pulmonary tuberculosis. There are, of course, difficult and complicated cases about which medical men will hold differing opinions as to the diagnosis. In order to arrive at an approximate figure of the error, if any, which may occur in diagnosing County patients, arrangements were made for 100 consecutive adult pulmonary or suspected pulmonary cases entering a particular sanatorium for "early" cases, to be diagnosed by the medical superintendent on admission without reference to the previous diagnosis by the tuberculosis officer. Immediately prior to admission, these 100 cases were classified as follows by the dispensary staff: pulmonary tuberculosis, 96 (positive sputum in 44 cases); doubtful pulmonary tuberculosis, 4. The medical superintendent, as the result of his examination and observation of the patients at the sanatorium, reported their diagnosis as: pulmonary tuberculosis, 95; not tuberculous, 5. It would not be correct, however, to look upon the medical superintendent's diagnosis as a final settlement of the matter, as he, too, is liable to err, and it would appear equitable to halve the difference of opinion existing in the five cases out of the 100 and to say that the error in diagnosis was equal to 2·5 per cent. of all the 100 cases tested.*

If allowance be made for the fact that one of the cases returned by the medical superintendent as non-tuberculous had been diagnosed by the dispensary officer as "doubtful," the percentage of error is further slightly improved (*i.e.*, to 2·0). This can be regarded as a satisfactory figure.

* In considering this experiment, it should be stated that the average interval between the examinations was three weeks—and in two cases out of the 100 a difference of two stages in the disease was noted.

CARE WORK.

CARE COMMITTEES IN RELATION TO THE PREVENTION AND TREATMENT
OF TUBERCULOSIS IN LANCASHIRE.

The voluntary Care Committees fulfil an important part in relation to the treatment of tubereulosis, and in surveying their work it is necessary to recapitulate first of all the steps taken under the County scheme to deal with persons suffering from tubereulosis. Through the dispensaries and dispensary organisation persons who apply for treatment are examined by the tubereulosis officer, either at their homes or the dispensary, and as and when required are supplied with : paper handkerchiefs and sputum flasks, to prevent the spread of infeetion ; dressings if suffering from " open " surgical tubereulosis ; special nourishment, usually in the form of milk ; thermometers and appliances such as splints, erutehes, supports, and surgical boots ; dentures, or repairs to dentures, in order to derive full benefit from sanatorium treatment ; and the loan of bedsteads and mattresses, if necessary, to enable patients in an infectious state to have a bedroom to themselves. This may be described as the *preventive* side of home treatment, and is, of course, additional and supplementary to the medical treatment of patients by their own doctors. If insured, patients who are in full benefit receive : (a) as siekness benefit 15/- per week for men and 12/- for women for 26 weeks ; followed by (b) disablement benefit of 7/6 per week for men and 5/- for women, until 70 years of age.

Tubereulosis is essentially a chronic disease, and its most prevalent form, consumption, attacks most commonly adults in the prime of life, It frequently happens that either siekness benefit or disablement benefit is not suffieient to enable either the patient or his family to seure adequate nourishment, and it is in assistance to these cases that the work of the Care Committees is of the greatest value.

There were at the end of 1921 nine voluntary Care Committees, recognised by the County Council, at work, covering an estimated population of 517,265 out of an estimated County population of 1,758,738. Partieuulars of the populations served, the number of patients assisted, and the amounts expended during 1921 are as follow :—

TABLE 11.—*Care Work.*

	Estimated Population Served.	Number of Individual Patients Assisted during 1921.	Expenditure during 1921.		
			£	s.	d.
Ashton-under-Lyne and District...	69,769	103	327	10	10
Chorley and District	70,199	54	320	19	10
Farnworth and District	68,429	71	171	0	8
Golborne	7,340	19	90	16	0
Horwich	15,830	22	171	8	5
Lancaster and District	77,184	20	147	3	7
Leigh and District...	90,075	214	220	2	4
Westhoughton	15,870	39	123	8	6
Wigan County District	102,569	54	187	10	8
Total	517,265	596	£1,760	0	10

The following are in general the objects for which the voluntary Care Committees may be said to stand :—

- (1) To assist in the purchase of clothing which patients need when they go to sanatorium.
- (2) To provide food and clothes for poor patients who are receiving treatment at home. (N.B.—Bedsteads were formerly lent, but these are now provided as part of the County Tuberculosis Scheme.)
- (3) To give assistance (in kind) to dependants, so as to enable patients for whom institutional treatment has been recommended to take advantage of the opportunities provided under the County scheme.
- (4) To assist patients, who are sufficiently recovered, to obtain suitable employment.
- (5) To give suitable advice and encouragement to patients and their friends, and generally to assist the dispensary staff in the enlightenment of the public both as to the laws of health and the facilities for treatment.

The income of the Committees is derived from voluntary sources by way of house-to-house collections, periodical contributions from factories and workshops, concerts, whist drives, socials, flower days, &c., grants from Trade Unions, Employers' Associations, Boards of Guardians, and other bodies. During trade depression, the finances of the Committees suffer just at a time when their disbursements are of necessity high, and thus the anxiety of the Committees to obtain a reasonable working balance can be well understood. On two occasions prior to the cessation of Sanatorium Benefit on the 1st May, 1921, the Lancashire Insurance Committee made contributions, varying from £25 to £60, to the Care Committees; and since that date the County Council, in pursuance of their powers under Section 2 of the "Public Health (Tuberculosis) Act, 1921," voted (in November, 1921) a sum of £450 to the nine Care Committees, which was divided proportionately according to the amount expended by each Committee in assisting patients or their dependants.

In addition, the County Council defray the cost of printing, stationery, postages, carriage, and clerical assistance, so that the whole income of any Care Committee is available for the relief of patients.

The Committees are composed in the main of representatives of Local Authorities, Trade Unions, Guilds of Help, and other persons interested in the welfare of tuberculous patients. The tuberculosis officer acts as medical adviser, and in the majority of cases the tuberculosis health visitor as hon. secretary or one of the hon. secretaries of the Committee. No assistance is, therefore, given except under the personal supervision of the tuberculosis officer, and on this account no overlapping with other agencies is likely to occur.

These voluntary Care Committees are doing, and have done, very valuable work in providing clothing, grants in kind to completely disabled cases or dependents, either to replace or supplement the sickness benefit when it is insufficient to keep the patient or his family from being a charge on the Poor Rate. A further most important result is a knowledge gained by the members of these Care Committees and others in the locality of the real nature, extent and aims of the County Scheme dealing with the prevention and treatment of tuberculosis. In regard to the present position of the Committees, it should be noted :—

- (1) That only a portion of the Administrative County is covered by the present Committees.
- (2) That the responsibility of raising the funds and the general organisation rests mainly on the tuberculosis officer and his staff, and entails a very considerable demand on the time at their disposal. No single dispensary area is covered entirely by Care Committees, nor would it appear possible for the present staff to assist and advise a very large number of voluntary Committees each serving small areas.
- (3) The only method to assist patients or their dependants in those areas not covered by voluntary Care Committees would appear to be to allow the tuberculosis officer to grant such patients or their families food-stuffs and clothing through the dispensaries.

The County Council are empowered by the Act of 1921, before mentioned, to make such arrangements as they think desirable for the after-care of persons who have suffered from tuberculosis.

THE DISPENSARY ORGANISATION.

It may be again emphasised that the efficiency of the special work undertaken in all County schemes which deal with the prevention and treatment of tuberculosis depends directly on the dispensary organisation set up under the scheme. Considerable prominence is so often given to the sanatorium side of the scheme, and this tends to obscure the work carried out through the dispensary organisation, which is the more important because the whole basis of the work here is towards early diagnosis and prevention rather than cure. The dispensary tuberculosis officer and his staff have to fulfil the most delicate duties—working in the closest co-operation with the medical practitioners and local health officials, diagnosing with due sense of responsibility cases referred to them, advising the appropriate form of treatment, investigating tactfully and at first-hand the home conditions, and effectively supervising the home treatment of patients.

For dispensary purposes the Administrative County is now divided into five large areas and two sub-areas, each area under the charge of a Consultant Tuberculosis Officer. In order to assist the Consultant Tuberculosis Officers, there are eight Assistant Tuberculosis Officers and 30 Tuberculosis Health Visitors.

The civilian (*i.e.*, excluding serving sailors and soldiers) population to be dealt with under the County Council scheme was estimated in the year 1921 to be 1,758,738, resident in 122 sanitary districts; the total estimated population of the County area was 1,760,247.

The complete County scheme, revised in March, 1919, provides for 26 dispensaries, namely, 5 chief and 21 branch. At the end of 1921, 5 chief and 17 branch dispensaries were in use, the establishment of the remainder having been postponed owing to the difficulty in obtaining suitable premises.

Table A, inserted, shows the dispensary areas with the population, present staff, the names of all the dispensaries at present in use, and the days and times on which they are open.

In each dispensary area there is a chief dispensary at which is co-ordinated the whole of the work required in that particular area, and, in addition, branch dispensaries have been provided. The consultant tuberculosis officer, or his assistant, attends the various dispensaries at stated times, to examine and give advice to any resident of the County area.

TABLE A.

LIST OF DISPENSARIES AND THE TUBERCULOSIS
OFFICERS FOR THE DISPENSARY AREAS.

Table A.—List of Tuberculosis Dispensaries in use in October, 1922, and the Tuberculosis Officers for the Dispensary Areas :—

Dispensary Area No	SANITARY DISTRICTS.			Estimated Civilian Population, 31/12/21.	MEDICAL STAFF October, 1922.	NURSING STAFF.	DISPENSARIES.	Days and Hours of Dispensary Sessions (Distinct from Home Visiting).
1	Adlington Blackrod Carnforth Chorley (B.) Chorley (R.) Croston Fulwood Garstang (R.), Part of, consisting of parishes of— Barnacre-with-Bonds Billsborrow Bleasdale Cabus	Garstang (R.) <i>continued</i> Catterall Claughton Cleveleys Forton Garstang Holleth Kirkland Myerscough Nateby Nether Wyresdale Winmarleigh	Heysham Horwich Lancaster (B.) Lancaster (R.) Leyland Longridge Lunesdale (R.) Lytham Morecambe (B.) Preston (R.) St. Annes-on-the-Sea Walton-le-Dale Withnell	242,275	Dr. A. D. Brunwin, Tuberculosis Dispensary, 8, Middle Street, Lancaster. Assistant Tuberculosis Officer— Dr. G. H. Leigh.	Nurse L. Walker Nurse J. Skelcher Nurse C. E. Munro Nurse F. D. Abbott	CHIEF—Lancaster, 8 Middle Street (Tel. No. 568) BRANCH—Chorley, 5 High Street (Tel. No. 263) BRANCH—Preston, 22 Bolton Street (Tel. No. 1111) BRANCH—Ulverston, Virginia House (Tel. No. 145).	Monday, 12 noon. Thursday morning by appointment. 1st Monday evening in month by appointment. Monday by appointment. Thursday, 11-30 a.m. 2nd Tuesday evening in month by appointment. Wednesday, 11 a.m. Monday evening before 2nd Tuesday in month by appointment.
	FURNESS SUB-AREA— Dalton-in-Furness Grange-over-Sands	Ulverston	Ulverston (R.)	42,627	Dr. E. H. A. Pask, High Carley Sanatorium, near Ulverston. (Tel. No. 110 Ulverston)	Nurse E. A. Duston		Tuesday, 10 a.m. Thursday, 10 a.m.
	FYLDE SUB-AREA— Fleetwood Fylde (R.) Garstang (R.), Part of, consisting of parishes of— Great Eccleston Hambleton	Inskip-with-Sowerby Out Rawcliffe Pilling Stalmine-with-Stainall Upper Rawcliffe Kirkham	Poulton-le-Fylde Preesall Thornton	49,856	Dr. G. Leggat, Elswick Sanatorium, near Kirkham (Tel. No. 38 Kirkham).	Nurse A. Tweedy		
2	Accrington (B.) Bacup (B.) Barrowford Blackburn (R.) Brierfield Burnley (R.) Church	Clayton-le-Moors Clitheroe (B.) Clitheroe (R.) Colne (B.) Darwen (B.) Groat Harwood Haslingden (B.)	Nelson (B.) Oswaldtwistle Padiham Rawtenstall (B.) Rishton Trawden Turton	360,638	Dr. B. MacPhee, Tuberculosis Dispensary, 39, Avenue Parade, Accrington. Assistant Tuberculosis Officer—Dr. S. C. Adam	Nurse L. F. Norwood Nurse E. Watterson Nurse M. Duggan Nurse A. Munro Nurse A. G. Ward Nurse R. Lambert	CHIEF—Accrington, 39, Avenue Parade (Tel. No. 2443). BRANCH—Darwen, 20, Railway Road (Tel. No. 408). BRANCH—Nelson, 64, Carr Road (Tel. No. 507). BRANCH—Stacksteads, Knott Hill, Houso (Tel. No. 83 Waterfoot).	Tuesday, 10 to 11 a.m., 2 to 5 p.m. Wednesday, 2 to 5 p.m. 2nd Wednesday of month, 6 p.m. Friday, 10 to 11-30 a.m. Tuesday, 2 to 5 p.m. Friday, 2 to 5 p.m. 1st Friday of month, 6 p.m. Thursday, 3 to 5 p.m. 1st Thursday of month, 6 p.m.
3	Ashton-under-Lyne (B.) Audenshaw Bury (R.) Chadderton Crompton Denton Droylsdon Failsworth Heywood (B.)	Hurst Lees Limehurst (R.) Littleborough Middleton (B.) Milkrow Mossley (B.) Norden	Prestwich Radcliffe Ramsbottom Royton Tottington Wardle Whitefield Whitworth	376,770	Dr. J. L. Stewart, Tuberculosis Dispensary, Boston House, Warrington Street, Ashton-under-Lyne. Assistant Tuberculosis Officers— Dr. G. Fletcher, Dr. C. Berry.	Nurse H. Dewsnap Nurse C. Guilfoy Nurse R. Davison Nurse M. A. Potter Nurse I. F. MacDonald Nurse A. Brown	CHIEF—Ashton-under-Lyne, Boston House, Warrington Street (Tel. No. 775). BRANCH—Mossley, Park Lodge. BRANCH—Bury, The Wylde (Tel. No. 654). BRANCH—Middleton, 71 Manchester Old Road. BRANCH—Oldham, 25 Barker Street (Tel. No. 1671). BRANCH—Rochdale, 134 Drake Street (Tel. No. 392).	Tuesday, 3 p.m. and 6-30 p.m. Friday, 10 a.m. Monday, 10-30 a.m.—for X-Ray exams. Tuesday, 11 a.m. Monday, 2-30 p.m. Wednesday, 2-30 p.m. 3rd Wednesday of month, 6-30 p.m. Friday, 3 p.m. 2nd Friday of month, 6-30 p.m. Monday, 3 p.m. 2nd Monday of month, 6-30 p.m. Wednesday, 10 a.m. Thursday, 10 a.m. 2nd Thursday of month, 7 p.m.
4	Abram Ashton-in-Makerfield Aspull Atherton Barton-upon-Irwell (R.) Billinge Eccles (B.) Farnworth Hindley	Ince-in-Makerfield Irlam Kearsley Leigh (B.) Leigh (R.) Little Hulton Little Lever Orrell Standish-with-Langtree	Stretford Swinton and Pendlebury Tyldesley-with-Shakerley Upholland Urmston Westhoughton Wigan (R.) Worsley	444,362	Dr. G. Jessel, Tuberculosis Dispensary 13, Church Street, Leigh. Assistant Tuberculosis Officers— Dr. G. B. Charnock, Dr. A. B. Jamieson, Dr. J. Cathcart.	Nurse H. M. Shakespeare Nurse S. T. Bamber Nurse M. B. Jones Nurse F. G. Smith Nurse E. Simmons Nurse E. Horrocks Nurse E. Walters Nurse F. Milnes	CHIEF—Leigh, 13 Church Street (Tel. No. 258). BRANCH—Eccles, 28 and 30, Gilda Brook Road (Tel. No. 533). BRANCH—Farnworth, 12 Bolton Road (Tel. No. 63). BRANCH—Stretford, 14, Dorset Street (Tel. No. 110 Trafford Park). BRANCH—Swinton, 40, Chorley Road (Tel. No. 295 Eccles). BRANCH—Wigan, 14, Rodney Street (Tel. No. 549).	Wednesday, 10 a.m. Friday, 10 a.m. 2nd Thursday of month, 6-30 p.m. Wednesday, 6-30 p.m. Friday, 9-30 a.m. Tuesday, 10 a.m. Friday, 2 to 3 p.m. 3rd Thursday of month, 6-30 p.m. Tuesday, 10 a.m. Thursday, 10 a.m. Last Monday of month, 6-30 p.m. Monday, 10 a.m. Wednesday, 10 a.m. Last Thursday of month, 6-30 p.m. Monday, 9-30 a.m. Thursday, 9-30 a.m. 4th Thursday of month, 6-30 p.m.
5	Formby Golborne Great Crosby Haydock Huyton-with-Roby Lathom and Burscough Litherland	Little Crosby Nowton-in-Makerfield Ormskirk Prescot Rainford Sefton (R.)	Skelmersdale Warrington (R.) Waterloo-with-Seaforth West Lancashire (R.) Whiston (R.) Widnes (B.)	242,210	Dr. C. W. Laird, Tuberculosis Dispensary, 7, Claremont Road, Seaforth. Assistant Tuberculosis Officer— Dr. C. H. Lilley.	Nurse E. Whelan Nurse I. Laing Nurse E. Walsh Nurse M. J. Wilson	CHIEF—Seaforth, 7, Claremont Road (Tel. No. 688 Waterloo). BRANCH—St. Helens, 18 Claughton Street. BRANCH—Widnes, Brendan House, Widnes Road (Tel. No. 156).	Monday, 3 to 4-30 p.m. Friday, 10 to 11-30 a.m. 3rd Thursday of month, 6-30 p.m. Tuesday, 3 to 4-30 p.m. Last Tuesday of month, 6 to 7 p.m. Monday, 10 to 11-30 a.m. Friday, 2-30 to 4-30 p.m. 1st Wednesday of month, 6 to 7 p.m.
				1,758,738				

Ordinary symptomatic treatment is not undertaken at a dispensary if the patient has a doctor and is at the time receiving satisfactory treatment, as the tuberculosis officer and his staff deal more particularly with the diagnosis of patients and with special forms of treatment, and exercise general supervision over domiciliary treatment, acting in co-operation with the insurance practitioner or family doctor, and give special attention to general hygienic and preventative measures, in conjunction with the doctor and the local sanitary authority.

The number of cases granted "dispensary treatment" is relatively small, for, as stated above, ordinary symptomatic treatment at dispensaries is not undertaken, except in special circumstances.

Briefly, what is actually allowed under dispensary treatment and dispensaries supervision is as follows:—

DISPENSARY TREATMENT is recommended where patients are (*a*) not being attended by a general practitioner and are actually receiving treatment from the County staff, *e.g.*, prescriptions for medicine, supply of malt and cod liver oil, attention for non-pulmonary condition; or (*b*) being attended by a doctor, but, in addition, requiring special care from the dispensary staff, *e.g.*, actual nursing or dressings, provision of tuberculin.

DISPENSARY SUPERVISION is recommended for patients who are receiving treatment under their own medical attendant (whether insurance practitioners or private doctors), and who also are under the supervision of or receiving assistance from the dispensary staff in co-operation with the medical attendant. Supervision includes the efforts made by the tuberculosis health visitors to prevent the spread of infection in patients' homes, and the assistance given to medical practitioners by seeing that patients carry out properly the usual routine of treatment at home. Under dispensary supervision also, patients are provided with thermometers, sputum outfits, paper handkerchiefs, and loan of bedsteads, mattresses, and nursing requisites where required.

Those patients with active disease are examined at frequent intervals and placed for short periods (of not more than three months) on dispensary treatment or supervision, and granted other forms of treatment as found advisable. Quiescent cases are, however, kept on dispensary supervision only, so long as they are well, and are reviewed annually.

CO-OPERATION WITH LOCAL SANITARY AUTHORITIES AND MEDICAL OFFICERS OF HEALTH.

The co-operation with the local sanitary authority and its officials, a matter of the utmost importance, has continued to be of a cordial character, resulting in considerable benefit to the efficiency of the County scheme.

(a) HOME VISITS BY THE TUBERCULOSIS HEALTH VISITORS.—Following the routine of previous years, arrangements have been made whenever possible by mutual consent between the local medical officer of health and the tuberculosis officer for the latter to receive direct particulars of the notifications of tuberculosis, and so short-circuit the official procedure described in the following paragraph. When this is done, the tuberculosis health visitor pays the primary visit to the notified cases in a sanitary area. Her reports on the environmental conditions are considered by the tuberculosis officer, and a duplicate is sent at once to the local medical officer of health, whose attention is drawn to any sanitary defect or defects which may exist. By this mutual co-operation, prompt and regular visits can be made, and overlapping as regards visiting by officials of two public authorities is avoided.

The consultant tuberculosis officer receives each week from the County medical officer of health the names and addresses of all persons notified to him as suffering from tuberculosis, and the patients so notified are visited by the tuberculosis health visitor, if this has not been done under the procedure just described, and provided they are not already known to the dispensary staff. Each patient received from the nurse instructions, both written and verbal, as to the general hygienic measures required, and (when not otherwise supplied by the sanitary authority) is given paper handkerchiefs and bags, or sputum flasks, and instructed in the proper method of collecting and destroying the sputum. The patient is also instructed by the nurse how to take his or her temperature, and a thermometer is lent to any patient who, in the opinion of the tuberculosis officer, requires one. Arrangements are also made for the attendance of the patient and contacts at the dispensary. The number of visits paid to each patient varies, the worst cases receiving more frequent visits. With the appointment of the full nursing staff, it has been possible, in selected cases, to undertake the actual nursing of patients. The supervision and encouragement given, often under great difficulties, are a most important part of the work, both as regards prevention and treatment of the disease.

(b) REMOVALS AND DEATHS OF NOTIFIED CASES.—The tuberculosis officers acquaint local medical officers of health of the changes of address of patients, and similarly the tuberculosis department supply them with copies of the weekly return of deaths. This assists the medical officers to keep up to date their Register of Notifications, in compliance with the Public Health (Tuberculosis) Regulations of 1912 and 1921, and to inform the appropriate new sanitary authority when a patient removes from their district.

CO-OPERATION WITH GENERAL PRACTITIONERS, PENSIONS AUTHORITIES, SCHOOL CLINICS, HOSPITALS, AND HEALTH OFFICIALS.

One of the essential features in the Lancashire Tuberculosis Scheme has always been the acknowledgment of the necessity for the closest co-operation between the tuberculosis medical staff and the general practitioners and various bodies and officials who medically treat or otherwise come in contact with sick persons, many of whom may be suffering, or suspected to be suffering, from tuberculosis in the early—or even late—stages. It is by this means, and before notification of the case, that the majority of early cases are brought to the notice of the

tuberculosis officer, and are thus enabled to avail themselves of the special treatment afforded under the County Council Scheme. Every endeavour is made, and successfully so, to secure effective co-operation with the following :—General practitioners, school medical officers, medical officers of clinics, pensions officials, and medical staffs of hospitals and infirmaries (including out-patient departments). *The extent of such co-operation may be gauged from the fact that in 1921, out of 4,314 new cases (contacts excluded) examined by the tuberculosis officers, 2,971, or 68·9 per cent., had been referred to the dispensaries from the sources above stated before particulars of notification had been received by the tuberculosis officer.*

Information as to the County tuberculosis scheme has been supplied to all medical practitioners, and new doctors commencing or taking over existing practices in the Administrative County are communicated with by the tuberculosis officer and made acquainted with the address of the nearest dispensary and the special facilities for the treatment of tuberculosis.

ADMISSION OF PATIENTS TO, AND DISCHARGE FROM, INSTITUTIONS.

The admission and discharge of every patient suffering from pulmonary tuberculosis who receives residential treatment, is notified by the central tuberculosis officer to the medical attendant, to the medical officer of health of the district in which the patient resides, and to the tuberculosis officer. The medical officer is thus enabled to make arrangements for the disinfection of the house when necessary.

SUMMARY OF WORK DONE THROUGH THE DISPENSARY ORGANISATION IN 1921.

The following is a summary of the work done in 1921 through the dispensary organisation.

It will be observed from the table on page 29 that some 7,113 persons were examined by the dispensary officers for purposes of diagnosis, as compared with 5,526 in 1920—an increase equal to 28·7 per cent. Visits by the tuberculosis officers to the homes of tuberculous persons amounted to 7,596, *an increase of 76·6 per cent on 1920 figures*. Attendances of patients at the dispensaries numbered 27,246, as compared with 27,912 attendances in 1920.

EVENING SESSIONS AT DISPENSARIES.

As in previous years, the evening sessions have been regularly held at most of the dispensaries for the convenience of patients who are at work during the day. In this way the patients are able to consult the tuberculosis officers regularly, without being under the necessity of losing wages through absence from work.

The sessions—generally well attended—are evidently appreciated by those for whom they are intended.

HOUSING CONDITIONS.

The table on page 30 gives a summary of the housing conditions at the end of 1921 of all the patients who have applied for treatment, and who were ordinarily residing in the Administrative County at the end of 1921.

TOTAL NUMBER OF CASES UNDER SUPERVISION.

Table 12(a) shows the total number of persons (whether applicants for treatment or not) who were suffering or had suffered from tuberculosis, and who were under the supervision of the dispensary staff at the end of 1921. As a matter of interest, the number of cases per 1,000 of the population has also been calculated for each area :—

TABLE 12 (a).—*All Tuberculous Cases.*

Dispensary Area.	Estimated Civilian Population, 31/12/21.	Number of Cases under Supervision on 31/12/21.					Number of Cases of Tuberculosis under supervision per 1,000 of Population.
		Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		Total number of Cases.	
		Under 16 years of age.	16 years and over.	Under 16 years of age.	16 years and over.		
No. 1	242,275	131	727	207	191	1,256	5.18
Furness Sub-Area	42,627	96	173	26	13	308	7.22
Fylde Sub-Area	49,856	34	122	18	14	188	3.77
No. 2	360,638	33	695	165	313	1,206	3.34
No. 3	376,770	181	1,351	240	372	2,144	5.69
No. 4	444,362	477	1,612	663	531	3,283	7.38
No. 5	242,210	463	680	268	217	1,628	6.72
Total for Administrative County	1,758,738	1,415	5,360	1,587	1,651	10,013	5.69
		6,775		3,238			

TABLE 12 (b).—*Applicants for Treatment only.*

Number of Cases (Applicants only) under some form of treatment on the 31st December, 1921.

	DISPENSARY AREA.							
	1	Furness Sub.	Fylde Sub.	2	3	4	5	Total.
<i>(a) Under 15 years.</i>								
Fit for School—Males ...	47	12	10	44	126	226	109	574
Females ...	30	18	8	49	128	204	80	517
Not fit for School—M. ...	20	17	3	21	26	27	40	154
F. ...	26	16	8	13	36	48	40	187
In Institution on 31/12/21—Males ...	12	9	6	6	15	15	13	76
Females ...	1	16	6	7	24	9	20	83
<i>(b) 15 years and over.</i>								
Fit for Work—Males ...	220	34	33	376	599	674	309	2245
Females ...	211	48	31	299	564	602	207	1962
Not fit for Work—M. ...	113	31	26	163	227	235	158	953
F. ...	69	22	12	102	149	154	65	573
In Institution on 31/12/21—Males ...	32	16	12	37	60	71	37	265
Females ...	18	15	6	27	61	59	32	218
TOTAL—Males ...	444	119	90	647	1053	1248	666	4267
Females ...	355	135	71	497	962	1076	444	3540
GRAND TOTAL ...	799	254	161	1144	2015	2324	1110	7807

**Summary of work done by Tuberculosis Officers in 1921,
showing comparison with 1919 and 1920.**

	1919.	1920.	1921.
I.—VISITS TO PATIENTS AT THEIR HOMES—			
(a) Number of new persons examined for diagnosis or expert opinion, including contacts	881	1,104	3,043
(b) Revisits—			
(1) Respecting continued home treatment and dispensary supervision	1,936	2,895	4,034
(2) For other purposes, <i>i.e.</i> , Admissions to institutions, after discharge from institutions, <i>re</i> environmental conditions, &c. ...	265	301	519
Total	<u>3,082</u>	<u>4,300</u>	<u>7,596</u>
II.—DISPENSARY ATTENDANCES—			
(a) Number of new persons examined for diagnosis or expert opinion, including contacts	3,766	4,422	4,070
(b) Attendances of "old" cases	19,507	23,490	23,176
(c) *Number of patients receiving Tuberculin	3	3	1
(d) *Number of attendances for Tuberculin	24	50	4
Total	<u>23,273</u>	<u>27,912</u>	<u>27,246</u>
III.—TREATMENT RECOMMENDED—			
(1) Institutional (Sanatoria and Hospitals)	1,940	2,274	2,380
(2) Dispensary and Dispensary Supervision	11,250	17,146	17,766
(3) Provision of Surgical Appliances	156	183	162
(4) X-Ray Examinations	88	156	344
(5) Loan of Shelters	33	27	48
(6) No action required (Diagnosis not confirmed, refused treatment, &c. ...	1,512	482	362
IV.—NUMBER OF "CARE" COMMITTEES OR SUB-COMMITTEES ATTENDED BY TUBERCULOSIS OFFICERS			
	66	84	88
V.—NUMBER OF LECTURES AND ADDRESSES GIVEN ON TUBERCULOSIS			
	9	11	9
VI.—NUMBER OF VISITS PAID BY DISPENSARY NURSES			
	36,378	55,525	56,141

* Numbers included in II (a) or (b).

The following Table shows the housing conditions of all patients who have applied to the County Council for treatment and who were under treatment or supervision at the end of 1921. Whilst every effort is made to secure that infectious cases occupy a separate room, or at least a separate bed, no useful purpose is served by making the same insistence in regard to patients with the disease quiescent or arrested. The non-pulmonary cases are given separately, and only a very small number indeed may be considered infectious.

TABLE 13.—HOUSING STATISTICS OF COUNTY PATIENTS.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases <i>considered infectious or contagious.</i>	Under 15 years	12	7	7
	15 and over ...	1132	386	310
Total number of Pulmonary cases <i>not considered infectious or contagious.</i>	Under 15 years	164	244	344
	15 and over ...	1179	552	1320
Total number of Non-Pulmonary cases.	Under 15 years	123	289	401
	15 and over ...	391	317	629
TOTAL ...	Under 15 years	299	540	752
	15 and over ...	2702	1255	2259

7807

EXAMINATION OF SPUTUM.

As an aid to diagnosis, arrangements are in existence for the *free* examination of sputum in all cases where the tuberculosis officer considers such a course desirable. At each chief dispensary a small laboratory is installed; in addition, an arrangement has been made with the Director of the Public Health Laboratory, Manchester, for the examination of specimens.

During the year under report, 1,888 specimens of sputum have been forwarded, at the instance of the tuberculosis officers, to Manchester for examination, and the results of these examinations are :—

	1921	1920
Positive (<i>i.e.</i> , tubercle bacilli present) ...	718	805
Negative (<i>i.e.</i> , tubercle bacilli not found) ...	1,170	1,630
Total ...	<u>1,888</u>	<u>2,435</u>

In addition, 3,168 specimens of sputum have been examined at the dispensaries, with the following results:—

Positive (<i>i.e.</i> , tubercle bacilli present) ...	876	923
Negative (<i>i.e.</i> , tubercle bacilli not found) ...	2,292	2,400
Total ...	<u>3,168</u>	<u>3,323</u>

PROVISION OF SPECIAL NOURISHMENT.

(a) Value to Patients.

The provision of special nourishment is, in suitable cases, of great value to a patient in helping him to recover from the disease. A large proportion of cases have been allowed special nourishment pending removal to an institution, and these grants have undoubtedly enabled patients to commence their institutional treatment in a more favourable state than they would have been without it. The effect may, on the whole, be said to have shortened the period of institutional treatment for many patients.

In regard to the provision of special nourishment after institutional treatment, or during home treatment alone, the following points may be specially noted which have contributed to the number, extent, and usefulness of the grants. First, the amount of institutional accommodation available is still somewhat limited for certain types of cases, and this, in some instances does not allow of a second or third period of residential treatment if a patient breaks down again in health. Second, many cases of consumption are very chronic, and improvement is often only very slow and requires a long spell of treatment. Third, so long as there is no complete measure of isolation of infecting cases, the spreading of infection depends in a large manner on the precautions taken by the patient in his mode of life at home, and a small grant of special nourishment, in addition to assisting his recovery, undoubtedly aids the patient to pay stricter attention to his mode of life, and to carry out in a proper manner the instructions of his doctor and the tuberculosis officer.

(b) Administration.

Prior to the cessation of Sanatorium Benefit on the 1st May, 1921, special nourishment was granted (*a*) by the Lancashire Insurance Committee in respect of insured persons, and (*b*) by the County Council to non-insured persons, the Government making no contribution towards the cost.

On the date above stated, when the County Council became the sole Authority for the special treatment of tuberculosis, new regulations of the Ministry of Health came into force, by which the Government undertook to refund to the Council under certain conditions fifty per cent. of the cost of special nourishment, provided their annual contribution did not exceed a sum equal to £1 per 1,000 of the population. The Council considered the matter in May, 1921, and decided to make every effort to keep within the financial limit fixed by the Ministry, but to continue to make the grants to patients on medical grounds, leaving any small over-expenditure to be borne out of the County rate.

(c) Conditions governing Grants.

The Ministry of Health have approved the scheme of the County Council for granting special nourishment to tuberculous persons on the following conditions :—

- (1) That special nourishment be in no case ordered for a period of more than three months, and if in any case a continuance of the treatment is considered from a medical point of view desirable, the Central Tuberculosis Officer report the case specially to the Tuberculosis Committee.
- (2) That special nourishment be granted to persons who are waiting for admission to sanatoria or hospitals, or have returned from the same, when it is thought to be medically essential as part of the cure of the disease.
- (3) That special nourishment may be allowed to cases not included in the foregoing, provided the particulars of the cases are laid before the Tuberculosis Committee for consideration.
- (4) That each grant of special nourishment will only be allowed by the Tuberculosis Committee subject to the patient carrying out, in a satisfactory way, the medical treatment and such general hygienic measures as may be advised by the medical practitioner and tuberculosis officer.
- (5) That special nourishment be limited to orders for new milk and cream, unless on special report other nourishment be found desirable.
- (6) That the limit of expenditure be 7/- per week, unless an amount in excess of this sum is specially recommended on medical grounds by the Central Tuberculosis Officer and sanctioned by the Tuberculosis Committee.

(d) Patients granted Special Nourishment.

During the year, 2,122 grants of special nourishment for varying periods were made to 1,039 individual patients.

TUBERCULIN.

Tuberculin treatment is now made little use of, and last year only one patient—who made four attendances—received this form of treatment.

SPECIAL SURGICAL APPLIANCES.

During 1921, the following surgical appliances were supplied to patients, on the recommendation of the tuberculosis officers :—

Thomas' hip splint, 29 ; Thomas' knee splint, 8 ; caliper splint, 9 ; box splint, 1 ; spinal splint, 1 ; back splint, 3 ; walking splint, 2 ; Liston long splint, 1 ; elbow splint, 1 ; back ankle splint, 1 ; spinal splint and neck collar, 1 ; knee splint with back steel support, 1 ; side splint with footpiece, 2 ; double Thomas' splint with headpiece and extension for leg, 1 ; spinal frame, 16 ;

abduction frame, 2; spinal support, 12; poroplastic spinal support, 2; posterior spinal support, 3; spinal support with collar, 1; leather knee support with steel back piece, 1; steel spinal jacket, 3; spinal jacket, 10; poroplastic jacket, 4; crutches, 31; patten, 27; rubbers for crutches, 1; surgical boot, 9; special boot, 1; thick sole for boot, 1; artificial limb, 1; elastic thigh stocking, 1; spinal belt, 1; Jones' spinal saddle, 1; steel support for splint, 2; protective covering for chest, 1; throat spray, 4; atomiser, 1.

DOUBTFUL CASES OF TUBERCULOSIS.

A number of cases are referred to the tuberculosis officers by medical attendants, sanitary officials, Pensions Authorities, &c., where the diagnosis of tuberculosis is doubtful. These cases are kept under supervision for a short time, and, if necessary, sent to a residential institution for a period of observation until the diagnosis of tuberculosis can be definitely confirmed or not.

SLEEPING SHELTERS.

The number of shelters purchased by the Lancashire County Council is 81. Some of these have been transferred to institutions, and there are now 63 in use by patients at their homes. I have to thank medical officers of health and sanitary inspectors throughout the County for much valuable help in connection with the removal, disinfection, and re-erection of shelters used by County patients.

The loan of sleeping shelters is made to suitable cases, insured and non-insured, on the recommendation of the tuberculosis officer, after careful consideration of the following points: (1) the condition of the patient and his ability to use the shelter properly; (2) the position of the shelter; (3) the home conditions of the patient; and (4) the means of communication with the nearest inhabited building in case of a sudden relapse.

The number of persons in 1921 who used the shelters was 93.

EXAMINATION OF CONTACTS.

During the year, it has been possible, with the full medical staff available, to devote much more attention to the examination of contacts. By such systematic examinations, especially among contacts of patients with positive sputum ("open" cases), many early or unsuspected cases of tuberculosis are detected. Owing to indifference or unwillingness, considerable difficulty is often experienced in persuading contacts to go to the dispensary for examination, or even to submit themselves for examination at all, and it, therefore, follows that the tuberculosis officer has to see the majority of them at their homes.

The figures in the table following relate only to persons who received a thorough clinical examination at the hands of the tuberculosis officers :—

TABLE 14.—*Contacts examined during 1921.*

	Diagnosed as Tubercu- lous.	Diagnosed as suspects and kept under observa- tion.	Non- Tubercu- lous.	Total.
Number examined at home	13	118	1735	1866
Number examined at the dispensary ...	74	241	618	933
Total	87	359	2353	2799

The total number of contacts examined in 1920 was 877.

The diagnosis of these cases has been made on a conservative basis, but as the figure is so large, I hope next year to add sufficient particulars to shew the physical conditions in different patients leading to the diagnosis of tuberculosis.

In the Administrative County, at the end of 1921, the incidence of tuberculosis was found to be 5·69 per 1,000 of the population, and as the examination of 2,799 contacts revealed 87 definite cases, equal to 31·08 per 1,000, this represents a much higher figure than any random sampling of the ordinary population would give.

PROVISION OF BEDSTEADS, MATTRESSES, AND NURSING REQUISITES.

For each County Dispensary Area a small stock of bedsteads, mattresses (but not bedding), and nursing requisites has been purchased by the County Council for loan to necessitous patients undergoing home treatment. This was done principally with a view of securing the isolation of infective cases where, owing to the lack of bedsteads and the inability of relatives to provide them, such patients were compelled to sleep in beds with one or more persons. There are also a number of patients who are confined to bed, and in consequence require the use of certain bedside appliances or nursing requisites, in which case these are

supplied if the relatives have not sufficient resources to enable them to procure the articles.

The table following shows the number of these articles owned by the County Council, and also the number of patients who have been granted the use of the articles :—

TABLE 15.

Articles.	Quantity owned by County Council, 31/12/21.	Number of patients to whom articles have been loaned during 1921.	Articles in possession of patients at 31/12/21.
Bedsteads	162	91	115
Mattresses	159	92	109
Mattress Covers	113	55	87
Bed Pans	102	64	34
Bed Slippers	67	29	10
Bed Rests	43	53	22
Air Cushions	130	150	56
Water Beds	13	7	4
Ground Sheets	47	36	13
Urinals	101	53	20
Ice Bags	2	1	...
Spinal Carriages	6	2	2
Hot Water Bottles, Rubber ...	6	...	...

The bedsteads, mattresses, &c., are held at the disposal of the consultant tuberculosis officers, and proper receipts are obtained from patients for articles loaned to them.

The action of the County Council in sanctioning the purchase of these articles has proved of valuable assistance in securing the better accommodation at home of persons with pulmonary tuberculosis considered to be infectious or contagious. The improvement becomes most noticeable when the housing conditions at the end of 1921 are compared with those at the end of 1919, when no bedsteads were available. Of the total number of such infectious pulmonary cases at the end of 1921, 62 per cent. occupied a separate room, against 47 per cent. in 1919 ; and only 17 per cent. had no separate bed or room, against 31 per cent. in 1919.

X-RAY EXAMINATION.

In order to assist in the diagnosis of doubtful cases of tuberculosis, the arrangement made with the honorary radiologists attached to the Manchester Royal Infirmary and the Salford Royal Infirmary for patients to be sent for X-Ray examination has been continued. The Ministry of Health approved of the arrangement as a temporary measure, and it is proposed if and when possible to provide an X-Ray apparatus for each dispensary area, so that examinations can be made by the consultant tuberculosis officers.

So far, an X-Ray apparatus has been installed at the Chief Dispensary, Ashton-under-Lyne, and others are being provided during 1922 by the County Council at the Lancaster Dispensary (Area No. 1), High Carley Sanatorium (Furness Sub-Area), and the Eccles Dispensary (Area No. 4); whilst, by special arrangements with the local Medical Association, one is being fixed up in the Darwen Dispensary (Area No. 2).

At the Ashton Dispensary, during 1921, 492 screen examinations were made, and 165 skiagraphs taken, of patients residing in Dispensary Area 3. This apparatus has been found of invaluable assistance in diagnosis. Some 222 patients from other Areas were sent to Manchester for examination, and the reports of the radiologists were supplied to the consultant tuberculosis officers concerned.

The total number of County patients X-Rayed during the year at Manchester and Ashton-under-Lyne amounted, therefore, to 879.

REPORTS FOR DISPENSARY AREAS.

AREA NO. 1.

Lancaster, Preston Rural, Chorley, and Lytham St. Annes Districts.

(Estimated population, 242,275.)

Consultant Tuberculosis Officer ... Dr. A. D. BRUNWIN.

Assistant Tuberculosis Officer ... Dr. G. H. LEIGH.

Number of tuberculous cases under supervision on 31st December, 1921 ... 1256

(Of these, 799 were patients who had applied for treatment.)

Visits to patients at their Homes—

(a) Number of new persons examined for diagnosis or expert opinion, including contacts ... 201

(b) Revisits—

(1) Respecting continued home treatment and dispensary supervision ... 883

(2) For other purposes, *i.e.*, admissions to institutions, after discharge from institutions, *re* environmental conditions, &c. ... 100

Total ... 1184

Dispensary Attendances—

	New persons examined, including contacts.	Attendances of old cases.
Lancaster (Chief), 8, Middle Street. [Opened January, 1915]	103	604
Chorley (Branch), 5, High Street. [Opened 22nd June, 1914]	118	394
Preston (Branch), 22, Bolton Street. [Opened July, 1917]	55	211
Total	276	1209

Number of "Care" Committees or Sub-Committees attended by Tuberculosis Officers ... 22

Number of Lectures or Addresses given ... 1

Total number of Nurses' visits to cases—

(a) New cases	266	} 6601
(b) Old cases	6335	

Housing Statistics of Patients (applicants) in Area No. 1.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases considered infectious or contagious.	{ Under 15 years	...	...	...
	{ 15 and over ...	116	26	20
Total number of Pulmonary cases not considered infectious or contagious.	{ Under 15 years	20	21	22
	{ 15 and over ...	186	64	150
Total number of Non-Pulmonary cases.	{ Under 15 years	12	28	33
	{ 15 and over ...	37	21	43
TOTAL	...	371	160	268

Number of sanitary defects reported to the local medical officers of health	19
Number of sanitary defects which after notification were remedied	4
Number of disinfections carried out by sanitary authorities	267
Number of doubtful or suspicious cases of tuberculosis referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment	341

Dr. Brunwin sends the following report on work done in this Area :—

During the year 1921, out of a total of 416 new cases, 341, or 81·9 per cent., were referred to the department before notification by private medical practitioners, Pensions Authorities, school medical officers, or other health officials.

Occasionally requests are made by medical practitioners for the examination of specimens of sputum, without the patient himself being referred to the dispensary. If the result is positive, the practitioner is informed and the necessary arrangements made for the case to be dealt with. If the result is negative, a letter is sent to the patient's doctor, asking if he still considers the case one of tuberculosis and if the department can give any further assistance.

During 1921, 129 new cases required treatment. Of these, 49, or 38 per cent., were in the first stage of the disease; 63, or 48·8 per cent., were in the second stage; while 17, or 13·2 per cent., were in the third stage. Of the second stage cases, 24 exhibited signs and symptoms of progressive disease, and soon passed into third stage cases. An analysis has been made of the acute second stage cases, and of all the third stage cases, with a view to ascertaining the cause of any delay that might have occurred in the patient being referred to the tuberculosis officer.

Acute Second Stage Cases.—There remain 23 acute second stage cases after deducting one case who came to the County who had received treatment in another district. These, classified according to the duration of illness, period under medical treatment, and time between ceasing work and applying for treatment, give the following figures :—

	Number of Cases.	3 months or under.	3 to 6 months.	6 to 9 months.	9 to 12 months.	Over 12 months.
Duration of illness ...	23	7	5	...	5	6
Period under medical treatment ...	23	16	3	...	...	4
Number of months off work ...	23	18	3	...	1	1

Third Stage Cases.—After deducting 3 cases which were transferred, 14 cases remain, and the corresponding figures are :—

	Number of Cases.	3 months or under.	3 to 6 months.	6 to 9 months.	9 to 12 months.	Over 12 months.
Duration of illness ...	14	2	3	...	6	3
Period under medical treatment	14	9	3	1	...	1
Number of months off work	14	10	2	...	...	2

It will be seen from the foregoing figures that there is a much closer relation between the periods under medical treatment and the periods during which the patients were off work than there is between the duration of the symptoms and either of the above periods. This seems to indicate that the failure of the patients to consult their own doctors in the early stage of the disease is an important causative factor with regard to the delay in treatment.

Taking the two classes of cases separately, so far as can be told from the data available, time was lost in 5 second stage cases by the patients not seeking treatment early enough. In 5 other cases there seems to have been a delay in making the diagnosis or referring the case to the tuberculosis officer. This may have been due to the fact that the symptoms were not such as to appear to call for an examination of the chest, or even if such examination was made the signs of tuberculosis may not have been present. In the remaining 13 cases, which form more than half of the total of this class, it cannot be said that there has been any delay on the part of anyone, for it is evident from the subsequent history of the cases that the disease was of an acute nature, and the patients in question must have passed as rapidly from the first stage to the second as they were observed to do from the second to the third stage. Amongst the third stage cases, one-half, or 7 patients, did not consult their doctor sufficiently early, in 3 cases there might have been delay in diagnosis, and in 4 the disease was so acute that it cannot be said that there was either delay in seeking advice or in referring the cases to the department.

Fortunately, the number of cases is small—too small a number from which to form general conclusions. So far as the particular cases are concerned, it would seem that an acute onset of disease has been a potent factor in the production of third stage cases, and if the two series of cases are added together it will be found that such an onset will account for more unfavourable cases than either of the other two causes mentioned.

The work of the Care Committees still continues, although there has been more difficulty than usual in the collection of funds, owing to the general economic conditions. In the early part of the year the Chorley Care Committee extended their boundaries so as to take in the Urban District of Croston and the parishes of Cuerden and Hoghton. There are now only three urban districts not covered by Care Committees, and in one of these the need for special care work is very slight.

In July the superintendency of the Luneside Pulmonary Hospital was incorporated with the work of this area. As a fair proportion of the patients in that hospital come from the surrounding districts, a closer association between the administration of the hospital and the dispensary organisation has been established. It is hoped that this association will increase the usefulness of the dispensary work, and also be of advantage to the patients treated at the hospital.

FURNESS SUB-AREA.

*Dalton-in-Furness, Grange-over-Sands, Ulverston, and
Ulverston Rural Districts.*

(Estimated population, 42,627.)

Consultant Tuberculosis Officer ... Dr. E. H. ALLON PASK.

Number of tuberculous cases under supervision on 31st December, 1921 ... 308

(Of these, 254 were patients who had applied for treatment.)

Visits to patients at their Homes—

(a) Number of new persons examined for diagnosis or expert opinion,
including contacts ... 53

(b) Revisits—

(1) Respecting continued home treatment and dispensary
supervision ... 62

(2) For other purposes, *i.e.*, admissions to institutions, after
discharge from institutions, *re* environmental con-
ditions, &c. ... 15

Total ... 130

Dispensary Attendances—

						New persons examined, including contacts.	Attendances of old cases.
Ulverston (Branch), Virginia House [Opened 14th October, 1915]...						156	640
Total number of Nurses' visits to cases—							
(a) New cases	...	...	...	...	...	...	139
(b) Old cases	...	...	...	...	...	...	2126
							2265

Housing Statistics of Patients (applicants) in Furness Sub-Area.

				Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases <i>considered infectious</i> or contagious.	Under 15 years	...	...	...	...	1
	15 and over	...	...	21	2	8
Total number of Pulmonary cases <i>not considered infec-</i> <i>tious or contagious.</i>	Under 15 years	...	...	16	13	48
	15 and over	...	...	44	6	68
Total number of Non-Pul- monary cases.	Under 15 years	...	...	2	2	6
	15 and over	...	...	10	1	6
TOTAL	...	...	...	93	24	137

Number of sanitary defects reported to the local medical officers of health	12
Number of sanitary defects which after notification were remedied	...
Number of disinfections carried out by sanitary authorities	...
Number of doubtful or suspicious cases of tuberculosis referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment	...
	90

Dr. Pask sends the following report on work done in this Sub-Area :—

The number of patients undergoing treatment or supervision on the 31st December, 1921, was 308, as compared with 155 for the previous year, and the attendances at the dispensary have practically doubled.

The number of notifications was 155, as compared with 109, and the deaths recorded were 28, as compared with 31 for the previous year.

I think the increase in the number of notifications is accounted for by the following facts :—

- (1) Increased co-operation with the medical practitioners, due to the fact that in a small area one knows all the practitioners personally.

- (2) The number of school children who have been referred to me has been increased owing to the closer co-operation with the school medical officer.

- (3) A more thorough investigation of the "contact cases," and the willingness of these cases to come up for examination as the dispensary becomes better known in the district.

In view of the above facts, I do not think it necessarily means there has been an increase of tuberculosis in the district during the year.

Specimens of sputum are examined at the High Carley Sanatorium; the number of examinations in 1921 was 76 (19 positive, 57 negative).

FYLDE SUB-AREA.

Fleetwood, Fylde Rural, Garstang Rural (part of), Kirkham, Poulton-le-Fylde, Preesall, and Thornton Districts.

(Estimated population, 49,856.)

Consultant Tuberculosis Officer ... Dr. G. LEGGAT.

Number of tuberculous cases under supervision on 31st December, 1921 ...	188
(Of these, 161 were patients who had applied for treatment.)	

Visits to patients at their Homes—

- | | | | | | | | |
|---|-----|-----|-----|-----|-----|-----|----|
| (a) Number of new persons examined for diagnosis or expert opinion,
including contacts | ... | ... | ... | ... | ... | ... | 84 |
|---|-----|-----|-----|-----|-----|-----|----|

- (b) Revisits—

- | | |
|--|-----|
| (1) Respecting continued home treatment and dispensary supervision | 290 |
|--|-----|

- (2) For other purposes, *i.e.*, admissions to institutions, after discharge from institutions, *re* environmental conditions, &c. 69

Total	...	...	...	443
-------	-----	-----	-----	-----

Total number of Nurses' visits to cases—

- | | | | | | | | | |
|---------------|-----|-----|-----|-----|-----|-----|------|--------|
| (a) New cases | ... | ... | ... | ... | ... | ... | 80 | } 1598 |
| (b) Old cases | ... | ... | ... | ... | ... | ... | 1518 | |

Housing Statistics of Patients (applicants) in Fylde Sub-Area.

					Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.	
Total number of Pulmonary cases <i>considered infectious or contagious.</i>					Under 15 years	...	...	...
					15 and over ...	34	6	8
Total number of Pulmonary cases <i>not considered infectious or contagious.</i>					Under 15 years	9	12	7
					15 and over ...	31	7	27
Total number of Non-Pulmonary cases.					Under 15 years	5	2	6
					15 and over ...	4	3	...
TOTAL					83	30	48	

Number of sanitary defects reported to the local medical officers of health	3
Number of sanitary defects which after notification were remedied	2
Number of disinfections carried out by sanitary authorities	60
Number of doubtful or suspicious cases of tuberculosis referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment	40

Dr. Leggat sends the following report on work done in this Sub-Area :—

As in previous years, the work in this Area has been carried out entirely by the visitation of the patients in their homes. Though the housing shortage is not quite so acute in Fleetwood, it has not been possible to obtain rooms for a dispensary on sufficiently reasonable terms. A good deal of time and expense would, no doubt, be saved if the work could be centralised at Fleetwood.

A large number of new houses have been opened by the Council of Fleetwood, and are in a good position facing the sea front. With the co-operation of the local Medical Officer of Health, we have been fortunate in securing some of these for tubercular families, more particularly in those cases where there was marked over-crowding and unfavourable surroundings.

As usual, a great deal of help has been obtained from the local practitioners, and there has been a decided increase in the number of cases in which consultations were asked for previous to notification. The importance of early diagnosis and treatment is apparently becoming more generally realised, and the difficulties of securing the examination of contacts are diminishing.

AREA No. 2.

Accrington, Bacup, Burnley Rural, Darwen, Nelson, and Rawtenstall Districts.

(Estimated population, 360,638.)

Consultant Tuberculosis Officer ... Dr. B. McPHEE.

Assistant Tuberculosis Officer ... Dr. S. C. ADAM.

Number of tuberculous cases under supervision on 31st December, 1921 ... 1206
(Of these, 1144 were patients who had applied for treatment.)

Visits to patients at their Homes—

(a) Number of new persons examined for diagnosis or expert opinion,
including contacts ... 230

(b) Revisits—

(1) Respecting continued home treatment and dispensary
supervision ... 390

(2) For other purposes, *i.e.*, admissions to institutions, after
discharge from institutions, *re* environmental con-
ditions, &c. ... 87

Total ... 707

Dispensary Attendances—	New persons examined, including contacts.	Attendances of old cases.
Accrington (Chief), 39, Avenue Parade. [Opened April, 1915]	207	1,084
Darwen (Branch), 20, Railway Road. [Opened 19th May, 1916]	88	309
Nelson (Branch), 64, Carr Road. [Opened January, 1915]	204	804
Stacksteads (Branch), Knott Hill House. [Opened 18th May, 1916]	77	522
Total	576	2719

Number of Lectures or Addresses given 1

Total number of Nurses' visits to cases—

(a) New cases	...	...	...	...	...	387	} 9634
(b) Old cases	...	...	...	...	...	9247	

Number of sanitary defects reported to the local medical officers of health ... 53

Number of sanitary defects which after notification were remedied ... 42

Number of disinfections carried out by sanitary authorities ... 603

Number of doubtful or suspicious cases of tuberculosis referred by medical
practitioners, Pensions authorities, &c., to tuberculosis officer
for an opinion as to diagnosis or treatment ... 501

Housing Statistics of Patients (applicants) in Area No. 2.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases considered infectious or contagious.	Under 15 years	2	2	...
	15 and over ...	258	66	69
Total number of Pulmonary cases not considered infectious or contagious.	Under 15 years	4	14	9
	15 and over ...	139	53	112
Total number of Non-Pulmonary cases.	Under 15 years	14	56	39
	15 and over ...	114	80	113
TOTAL		531	271	342

Dr. McPhee reports that during the twelve months 944 specimens of sputum were examined at the Accrington Dispensary, 185 giving a positive result and 759 negative.

Periodical visits have continued to be paid to the Pulmonary Hospitals at Darwen and Burnley for the purpose of conferring with the medical superintendents as to the County patients undergoing treatment.

AREA No. 3.

Ashton-under-Lyne, Bury Rural, Chadderton, Crompton, Littleborough, Middleton, Mossley, &c., Districts.

(Estimated population, 376,670.)

Consultant Tuberculosis Officer ... Dr. J. L. STEWART.

Assistant Tuberculosis Officers ... Dr. G. FLETCHER and Dr. C. BERRY.

Number of tuberculous cases under supervision on 31st December, 1921 ... 2144
(Of these, 2015 were patients who had applied for treatment.)

Visits to patients at their Homes—

(a) Number of new persons examined for diagnosis or expert opinion, including contacts 181

(b) Revisits—

(1) Respecting continued home treatment and dispensary supervision 271

(2) For other purposes, *i.e.*, admissions to institutions, after discharge from institutions, *re* environmental conditions, &c. 63

Total 515

Dispensary Attendances—	New persons examined, including contacts.	Attendances of old cases.
Ashton-under-Lyne (Chief), Boston House, Warrington Street. [Opened September, 1914]	472	3,051
Bury (Branch), The Wylde. [Opened Novem- ber, 1914]	270	1,280
Middleton (Branch), 71, Manchester Old Road. [Opened 19th May, 1915]	97	616
Mossley (Branch), Park Lodge. [Opened November, 1914]	38	376
Oldham Branch, 25, Barker Street. [Opened 15th February, 1915]	247	1485
Rochdale (Branch), 134, Drake Street. [Opened March, 1915]	94	451
Total	<u>1,218</u>	<u>7,259</u>

Number of "Care" Committees or Sub-Committees attended by Tuberculosis Officers 12

Total number of Nurses' visits to cases—

(a) New cases	...	...	...	...	...	...	642	} 9338
(b) Old cases	...	...	...	...	...	...	8696	

Housing Statistics of Patients (applicants) in Area No. 3.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases <i>considered infectious or contagious.</i>	{ Under 15 years 15 and over ...	5 251	2 163	2 109
Total number of Pulmonary cases <i>not considered infec- tious or contagious.</i>	{ Under 15 years 15 and over ...	8 145	37 159	107 480
Total number of Non-Pul- monary cases.	{ Under 15 years 15 and over ...	15 42	41 90	138 221
TOTAL		466	492	1057

Number of sanitary defects reported to the local medical officers of health	255
Number of sanitary defects which after notification were remedied	110
Number of disinfections carried out by sanitary authorities	515
Number of doubtful or suspicious cases of tuberculosis referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment	751

Dr. Stewart reports :—

The Care Committee for Ashton-under-Lyne and District has completed a fifth year's work, and during the twelve months 103 cases were assisted by the Committee in various ways.

The bacteriological work for the Area is carried out at the laboratory of the Ashton-under-Lyne Dispensary. During the year, 1,329 specimens of sputum and 14 of urine were examined, with the following results : Sputum—positive, 405 ; negative, 924 ; Urine—positive, 2 ; negative, 12. These figures include re-examinations. The number of specimens sent direct by medical practitioners in the Area was 196. It is, of course, very desirable that patients themselves should be referred for examination in addition to the bacteriological examination of their sputum, but there are cases where the doctors may for various reasons find it more desirable in the first instance to get the sputum examined without actually sending the patient, and I find that, generally speaking, the more a doctor takes advantage of our laboratory facilities, the more he co-operates with us in consultation and general work.

In November, 1920, an X-Ray apparatus was installed in the Chief Dispensary at Ashton-under-Lyne. Since that date, all the X-Ray work for Area No. 3 has been carried out at the dispensary. During 1921, 492 screen examinations have been made, and 165 skiagraphs have been taken. Of the 165 skiagraphs, 92 were of the lungs, and 73 of bones and joints. In pulmonary cases, screen examination and skiagraph are both necessary in order to get the fullest information. In non-pulmonary cases, the skiagraph is the essential method. X-Ray examination has now established itself in this Area as a most valuable aid to diagnosis, and its use is being extended as the work develops.

The diagnosis and treatment of non-pulmonary tuberculosis now forms an important and increasing part of the work in the Area. It has become clear that, apart from the importance of treatment, complete notification of all forms of the disease is essential if preventive work is to be efficiently carried out. Experience has proved that notification of a non-pulmonary case may lead to the detection of an undiscovered pulmonary case, which has been the source of infection.

Visits for the purpose of conferring with the medical superintendents as to County patients in residence have been made each month to the following pulmonary hospitals in the Area: Wolstenholme Hall, Norden; Marland, Rochdale; Westhulme, Oldham; and Racefield, Chadderton.

AREA No. 4.

Leigh, Eccles, Farnworth, Stretford, Swinton, and Wigan Rural Districts.

(Estimated population, 444,362.)

Consultant Tuberculosis Officer	...	Dr. G. JESSEL
Assistant Tuberculosis Officers	...	Dr. G. B. CHARNOCK
		Dr. A. B. JAMIESON
		Dr. J. CATHCART

Number of tuberculous cases under supervision on 31st December, 1921 ... 3283
(Of these, 2324 were patients who had applied for treatment.)

Visits to patients at their Homes—

(a) Number of new persons examined for diagnosis or expert opinion, including contacts ... 2075

(b) Revisits—

(1) Respecting continued home treatment and dispensary supervision ... 1327

(2) For other purposes, *i.e.*, admissions to institutions, after discharge from institutions, *re* environmental conditions, &c. ... 87

Total ... 3489

Dispensary Attendances—

	New persons examined, including contacts.	Attendances of old cases.
Leigh (Chief), 13, Church Street. [Opened November, 1914]	374	2,511
Eccles (Branch), 28, Gilda Brook Road. [Opened 4th August, 1915]	157	976
Farnworth (Branch), 12, Bolton Road. [Opened January, 1917]	184	1,223
Stretford (Branch), 14, Dorset Street. [Opened November, 1916]	207	904
Swinton (Branch), 40, Chorley Road. [Opened October, 1914]	140	969
Wigan (Branch), 14, Rodney Street. [Opened 26th November, 1913]	179	1,171
Total	1,241	7,754

Number of "Care" Committees or Sub-Committees attended by Tuberculosis Officers ... 48

Number of Lectures or Addresses given ... 6

Total number of Nurses' visits to cases—

(a) New cases	...	929	} 22,230
(b) Old cases	...	21,301	

Housing Statistics of Patients (applicants) in Area No. 4.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases <i>considered infectious or contagious.</i>	Under 15 years	3	2	3
	15 and over ...	297	72	29
Total number of Pulmonary cases <i>not considered infectious or contagious.</i>	Under 15 years	84	87	85
	15 and over ...	465	202	312
Total number of Non-Pulmonary cases.	Under 15 years	51	118	96
	15 and over ...	137	101	180
TOTAL		1037	582	705

Number of sanitary defects reported to the local medical officers of health	144
Number of sanitary defects which after notification were remedied ...	91
Number of disinfections carried out by sanitary authorities	960
Number of doubtful or suspicious cases of tuberculosis referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment	834

Dr. Jessel reports :—

(a) The work of the area has proceeded along the lines laid down in previous reports. It will be noted that the number of new cases dealt with is less than last year, but, on the other hand, a large number of contacts have been examined and special attention was paid to the contacts of families where tubercle bacilli had been found in the sputum of one or more members.

(b) The total number of cases under supervision on the 31st December, 1921, was 3,283, as compared with 3,172 at the end of 1920, and 2,747 at the end of 1919. This is due to the fact that more and more old cases, not previously known to us, have been brought under dispensary supervision. Special cases referred by medical practitioners, Pensions authorities, &c., for an opinion as to diagnosis or treatment number 834. These figures do not include any routine examinations of old cases. The relationship between the dispensary staff and the medical practitioners has been, as in previous years, of a cordial nature, and there is evidently a growing appreciation of the advantages to be derived by co-operation with the dispensary staff.

(c) Sputum Examinations.—At the end of the year arrangements had been made to examine most of the specimens of sputum

belonging to the Area at the Eccles laboratory, and this is now being done. To the end of the year 457 specimens were examined, 179 proving positive, and 278 negative.

(d) Care Work.—The Care Committees of Leigh, Wigan, Westhoughton, and Farnworth have continued to do excellent work. These Care Committees have assisted 378 patients during the year at a cost of £702 2s. 2d., as compared with 259 cases at a cost of £559 19s. 9d. in 1920. The work of the Care Committee has become an important ancillary portion of the treatment scheme, as without the help thus provided many patients would not be in the position to accept the treatment available under the County Scheme and would be forced to seek Poor-law relief.

(e) Isolation.—As in former years, special attention has been paid to pulmonary cases while at home, especially where tubercle bacilli have been found in the sputum, in order to secure as satisfactory a degree of isolation as possible. In previous reports I have published figures which showed fairly regularly that about 70 per cent. of pulmonary cases with active disease can and did have a separate bedroom, and thus may be regarded as satisfactorily isolated. As regards open cases, that is where tubercle bacilli were present in the sputum at the time of report, 75·5 per cent. out of 483 cases had separate bedrooms, as compared with 79·0 per cent. out of 507 cases in 1920, and 77·1 per cent. out of 403 cases in 1919. These cases with tubercle bacilli in the sputum are, of course, the most important, and arrangements are now in force whereby the sputum of all pulmonary cases is regularly examined at least three times per year, so that the risk of massive infection may be reduced to a minimum. It is difficult and perhaps undesirable to insist upon patients who are apparently well, and who have either no sputum or a sputum found repeatedly negative, to sleep alone. Each case has to be considered on its merits. Arrangements are now in force whereby bedsteads and mattresses are lent from the dispensaries to necessitous cases. These are of material help in assisting still further the home isolation of patients. There is, of course, always a residue of patients who ought to be more or less permanently nursed and isolated in pulmonary hospitals, but, in my opinion, there is at present no sufficient reason, as far as danger of infection is concerned, for the wholesale and permanent isolation of tuberculous persons in institutions. The

housing shortage is admittedly rendering the whole problem of home treatment much more difficult, but it is evident that the building of houses, if on a sufficiently large scale, must generally relieve the amount of overcrowding that at present exists. It would probably be much more economical to subsidise the Care Committees, with a view to rendering home treatment more satisfactory in suitable cases.

The following tables show the position at the end of the year 1921 as regards pulmonary cases (1) considered infectious; (2) not considered infectious; and (3) as regards non-pulmonary cases:—

(1) *Pulmonary cases considered infectious or contagious, i.e., with tubercle bacilli in the sputum.*

(a) Separate bedroom	365, or 75·56 per cent.
(b) Separate bed, but not separate room	82, or 16·97 „
(c) Not satisfactory isolation	36, or 7·45 „

(2) *Pulmonary cases not considered infectious or contagious.*

(a) Separate bedroom	638, or 39·67 per cent.
(b) Separate bed, but not separate room	471, or 29·29 „
(c) Not satisfactory isolation	499, or 31·03 „

(3) *Non-pulmonary cases.*

(a) Separate bedroom	318, or 26·67 per cent.
(b) Separate bed, but not separate room	376, or 31·54 „
(c) Not separate bed	498, or 41·77 „

AREA NO. 5.

Seaforth, Newton-in-Makerfield, Warrington Rural, West Lancashire Rural, Whiston Rural, and Widnes Districts.

(Estimated population, 242,210.)

Consultant Tuberculosis Officer ... Dr. C. W. LAIRD.

Assistant Tuberculosis Officer ... Dr. C. H. LILLEY.

Number of tuberculous cases under supervision on 31st December, 1921 ... 1628

(Of these, 1110 were patients who had applied for treatment.)

Visits to patients at their Homes—

(a) Number of new persons examined for diagnosis or expert opinion, including contacts ... 219

(b) Revisits—

(1) Respecting continued home treatment and dispensary supervision ... 811

(2) For other purposes, i.e., admissions to institutions, after discharge from institutions, re environmental conditions, &c. ... 98

Total ... 1128

					New persons examined, including contacts.	Attendances of old cases.
Dispensary Attendances—						
Seaforth (Chief), 7, Claremont Road.	[Opened					
February, 1915]	...	...	...	...	358	2,195
Widnes (Branch), Brendan House.	[Opened					
20th July, 1914]	...	...	...	...	245	1,400
Total	...	...	...	...	603	3,595

Number of "Care" Committees or Sub-Committees attended by Tuberculosis Officers	...	...	...	...	...	...	6
Number of Lectures or Addresses given	...	...	...	...	...	...	1
Total number of Nurses' visits to cases—							
(a) New cases	...	...	...	...	...	546	} 4475
(b) Old cases	...	...	...	...	...	3929	

Housing Statistics of Patients (applicants) in Area No. 5.

		Patients Occupying Separate Bedroom.	Patients Occupying Separate Bed, but not Separate Bedroom.	Not Separate Bed.
Total number of Pulmonary cases considered infectious or contagious.	Under 15 years	2	1	1
	15 and over ...	155	51	67
Total number of Pulmonary cases not considered infectious or contagious.	Under 15 years	23	60	66
	15 and over ...	169	61	171
Total number of Non-Pulmonary cases.	Under 15 years	24	42	83
	15 and over ...	47	21	66
TOTAL	...	420	236	454

Number of sanitary defects reported to the local medical officers of health	90
Number of sanitary defects which after notification were remedied	64
Number of disinfections carried out by sanitary authorities	225
Number of doubtful or suspicious cases of tuberculosis referred by medical practitioners, Pensions authorities, &c., to tuberculosis officer for an opinion as to diagnosis or treatment	414

Dr. Laird reports :—

During the year the number of sputum examinations made amounted to 362, of which 88, or 24·3 per cent., were positive.

Free use has been made of the dispensary organisation by War Pensions Boards and Committees; 152 reports were furnished to the former, and 342 to the latter in the course of the year.

Golborne Care Committee has been doing useful work. The members continue to take the greatest interest in their duties, and the Committee has been the means of relieving a considerable amount of distress in tuberculosis cases in the district. This distress was particularly marked during the year, owing to the coal strike and unemployment.

As in 1920, it has been found necessary to hold one or two extra sessions at the dispensaries almost every week, and the annual review of cases, which was more extensively adopted at the end of 1921, was largely responsible for making additional demands on the dispensaries, and incidentally involved a considerable increase in the clerical work in connection with them.

The scheme for the loan of nursing requisites has been carried out as before, with the result that patients avail themselves of it to a greater extent than hitherto.

The services of an additional nurse were enlisted in this Area in November, 1921, chiefly because of the amount of actual nursing which was required to be undertaken. In the latter respect, Widnes and neighbourhood has made rather heavy demands on the nursing staff, as the number of bad cases in that part of the area is considerably above the average, and as yet there is a deficiency in pulmonary hospital accommodation. There is a prospect that this defect, however, will be removed to some extent in the near future.

It will be observed that there has been a progressive and marked increase in the number of cases dealt with, both new and old and whether regarded as home visits or attendances at dispensaries—this remark applies to both Seaforth and Widnes.

DENTAL TREATMENT.

Under a scheme adopted by the County Council in November, 1920, dental treatment is available for certain patients undergoing treatment at the Elswick and High Carley Sanatoria. Patients eligible for this form of treatment are those with hopeful prognosis and suitable for sanatorium treatment, and who are, in the opinion of the medical superintendent, unable to derive full benefit from institutional treatment owing to the defective condition of their teeth. Ex-service men and children of school age are not dealt with, as they are already covered by dental schemes of the Ministry of Pensions and Education Authorities respectively. When recommending patients for sanatorium treatment, the tuberculosis officers indicate whether dental attention is desirable, and, if this is so, such cases, as far as possible, are sent to either Elswick or High Carley, with a view to being afforded the necessary dental attention.

The essential dental equipment has been provided at both the sanatoria named, and a visiting dentist for each place was appointed early in 1921.

The following statement shows the dental work carried out during 1921 :—

TABLE 16.

	High Carley Sanatorium (7th March to 31st Dec., 1921).	Elswick Sanatorium (14th April to 31st Dec., 1921).	Total.
Number of patients who received dental attention (any form)	238	156	394
New Dentures provided—			
(a) Complete sets	13	4	17
(b) Partial sets	7	...	7
Repairs to Dentures	14	3	17
Number of Extractions	512	198	710
Number of Fillings	78	87	165
Number of Scalings and Cleanings	2237	363	2600
Number of other Operations	73	8	81

The dental scheme, considering the benefit derived by the patients, has proved economical and fully justified its inauguration ; also, the arrangements at the sanatoria have worked satisfactorily, and the Ministry of Health have approved of the continuation of the scheme.

SANATORIUM TREATMENT.

(a) IMMEDIATE RESULTS : CONDITION OF 6,622 PATIENTS ON DISCHARGE FROM SANATORIUM.

Between 15th July, 1912, and 31st December, 1921, the following numbers of patients received a period or periods of sanatorium treatment, and have been discharged :—

Adults	...	...	...	...	...	6,099
Children	...	...	...	...	...	523
						6,622
Total	...	...	...	...	...	6,622

These cases are distinct from those who received treatment in a pulmonary hospital or observation hospital. The latter are granted treatment almost solely for purposes of education or isolation, and no useful purpose is attained in trying to show curative results.

Under the County scheme patients have never been limited to any definite period—the length of stay depending on the recommendation of the medical superintendent. Cases likely to become quiescent have always received as long a period of treatment as considered necessary on medical grounds. It will be seen from Appendix III. that, in spite of there being no fixed period of treatment, the average duration is between three and four months, and this figure is not affected by patients leaving prematurely for other than medical reasons, as deduction is made for these.

Tables giving the condition on discharge from sanatorium, as certified by the medical superintendent, have been prepared in considerable detail and show the result according to (1) sex, (2) stage of disease on admission, and (3) whether the disease is “open” or “closed,” that is, sputum positive or negative (or absent). The tables in question for both adults and children constitute Appendices III. and IV. of this Report. Eliminating all possible detail, the following particulars, extracted from the tables, give a summary of the immediate results of sanatorium treatment. The after histories of these patients are recorded on pages 57 to 60.

TABLE 17.—*Immediate Results of Sanatorium Treatment.*

Adults or Children.	† Stage of Disease on Admission.	Sputum.	No. of Cases.	Condition on Discharge from Sanatorium.				
				Quies- cent. %	Im- proved. %	Sta- tionary. %	Worse. %	* No Infor- mation. %
(a) Adults (15 and over).	I. and I.S	Positive ...	1103	20·2	49·7	8·9	4·9	16·1
		Negative ...	1625	43·7	36·5	3·2	0·7	15·8
		None ...	434	52·8	32·9	2·9	0·7	10·6
		Total ...	3217‡	36·2	40·3	5·2	2·1	16·2
	II. and II.S	Positive ...	1685	10·2	52·9	11·4	8·0	17·4
		Negative ...	563	31·3	49·5	3·4	1·4	14·4
		None ...	127	44·1	40·1	1·6	2·4	11·8
		Total ...	2413	16·8	50·8	8·9	6·0	17·4
(b) Children (under 15).	I. and I.S	Positive ...	9	11·1	44·4	...	11·1	33·3
		Negative ...	130	50·0	36·9	2·3	0·8	10·0
		None ...	251	49·0	35·8	3·9	0·4	10·7
		Total ...	391§	48·3	36·6	3·3	0·8	10·9
	II. and II.S	Positive ...	11	...	45·4	27·3	9·1	18·2
		Negative ...	45	42·2	35·5	4·4	2·2	15·6
		None ...	52	38·5	46·1	5·8	3·8	5·8
		Total ...	108	36·1	41·7	7·4	3·7	11·1

* Includes patients discharged for other than medical reasons.

† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms as suggested by Philip.

‡ Includes 55 cases where the sputum was not examined.

|| Includes 38 cases where the sputum was not examined.

§ Includes 1 case where the sputum was not examined.

From the foregoing summaries and from the detailed tables in Appendices III. and IV., it will be seen that the earlier the stage at which a patient is admitted to a sanatorium—and more especially when tubercle bacilli are not found in the sputum—the greater are the beneficial effects of several months' sanatorium treatment.

The advanced or third stage cases appearing in Appendix III. have not been included in Table 17 above, as they were not strictly suitable cases for sanatorium treatment; they were admitted chiefly in 1912 and 1913, before the County dispensary organisation was set up.

(b) AFTER-HISTORIES OF PATIENTS WHO COMPLETED A COURSE OF SANATORIUM TREATMENT, ASSOCIATED WITH HOME TREATMENT AND DISPENSARY SUPERVISION OR TREATMENT.

However satisfactory and encouraging may be the immediate results of sanatorium treatment, they remain of secondary importance to the after-results of this form of treatment. A sufficient number of years has now elapsed to enable the after-histories of those patients who have completed one or more courses of sanatorium treatment to be analysed so as to show how they fared in the subsequent years. The position as at the end of 1921 has been ascertained for these sanatorium cases, and the results are contained in the Tables G and H (Adults and Children) forming Appendix VI. of this report. So that the data upon which the tables are based may be clear, it should be stated:

(a) The patients are grouped according to the particular year in which they applied for treatment, the practice of classifying them under the year of discharge having been discarded on account of so many patients receiving two, three, or more courses of treatment ;

(b) The cases are confined to patients who have received sanatorium treatment in the true sense, that is, distinct from residence in a pulmonary hospital or observation hospital, where an arrest of the disease is not expected ;

(c) Only patients who remained in a sanatorium two months or more have been included.

(d) Patients who were in an advanced stage of the disease when first commencing treatment under the County scheme, and subsequently admitted to sanatoria, although given for record in Appendix VI., are not dealt with in this summary, as they are not strictly sanatorium cases providing a prospect of an arrest of the disease ; and

(e) Patients suffering from both pulmonary and non-pulmonary tuberculosis who received sanatorium treatment for their pulmonary condition are included in these tables.

The information relating to adults, contained in Appendix VI., has been summarised under a few essential headings on the opposite page :—

TABLE 18.—*After-Histories of 3,287 Adult Patients who completed one or more Courses of SANATORIUM Treatment, associated with Home Treatment* and Dispensary Supervision or Treatment.*

Stage† of Disease.	Year of Application for Treatment.	Sputum.†	Average Duration of Sanatorium Treatment. (Months).	NET* No. of Patients who completed Sanatorium Treatment.	Position at end of 1921.		
					Fit for Work. %	Unfit for Work. %	Died. %
I. and I.S. ("Early" Cases)	1914	... Positive ...	4·9	35	42·8	11·4	45·7
		Neg. or None	3·2	74	81·1	5·4	13·5
	1915	... Positive ...	4·1	81	27·2	3·7	69·1
		Neg. or None	3·8	107	76·6	5·6	17·7
	1916	... Positive ...	4·5	99	33·3	7·1	59·6
		Neg. or None	3·6	192	82·8	7·3	9·9
	1917	... Positive ...	4·6	141	41·1	15·6	43·3
		Neg. or None	3·9	197	83·7	7·1	9·1
	1918	... Positive ...	4·5	135	48·1	17·0	34·8
		Neg. or None	3·8	201	81·1	11·4	7·5
	1919	... Positive ...	4·9	115	35·6	29·6	34·8
		Neg. or None	3·9	198	76·8	16·1	7·1
II. and II.S. ("Intermediate" cases).	1920	... Positive ...	4·1	98	46·9	26·5	26·5
		Neg. or None	3·7	124	77·4	16·1	6·4
	1914	... Positive ...	4·4	92	18·5	8·7	72·8
		Neg. or None	3·7	54	59·2	7·4	33·3
	1915	... Positive ...	4·5	151	23·2	7·3	69·5
		Neg. or None	3·7	51	50·9	13·7	35·3
	1916	... Positive ...	4·5	164	19·5	4·3	76·2
		Neg. or None	4·3	56	71·4	16·1	12·5
	1917	... Positive ...	4·8	171	15·8	12·3	71·9
		Neg. or None	4·3	51	58·8	9·8	31·4
	1918	... Positive ...	4·9	194	26·8	14·4	58·8
		Neg. or None	4·4	64	65·6	23·4	10·9
	1919	... Positive ...	4·8	153	26·8	19·6	53·6
		Neg. or None	3·9	49	71·4	20·4	8·2
	1920	... Positive ...	4·6	172	25·6	37·8	36·6
		Neg. or None	4·4	58	67·2	24·1	8·6

* Net number arrived at after deducting patients left County, untraced, ceased treatment for other than medical reasons, died from other than tuberculosis, and diagnosis not confirmed.

† Where sputum is shown as positive, tubercle bacilli have been found at some time during treatment.

‡ Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms, as suggested by Philip.

In order to ascertain at what age in life patients benefit most by sanatorium treatment, the following particulars have been extracted showing the position as at the end of 1921 of 2,310 patients who applied for treatment during the five years 1914 to 1918, arranged in present age-groups:—

TABLE 19.

Stage† of Disease of Applicants (1914-18).	Sputum.†	Age Groups.	NET* No. of Patients who completed Sanatorium Treatment.	Position at end of 1921.		
				Fit for Work. %	Unfit for Work. %	Died. %
I. and I.S. ...	Positive ...	15-25	119	29.4	5.9	64.7
		25-45	301	41.9	11.9	46.2
		45-65	71	45.1	22.5	32.4
	Neg. or None	15-25	241	82.1	6.6	11.2
		25-45	439	82.2	8.6	9.1
		45-65	91	76.9	7.7	15.4
II. and II.S	Positive ...	15-25	188	10.1	7.4	82.4
		25-45	444	23.6	9.4	66.9
		45-65	140	27.8	13.6	58.6
	Neg. or None	15-45	69	66.7	11.6	21.7
		25-45	144	60.4	13.9	25.7
		45-65	63	58.7	19.0	22.2

With regard to the question as to which of the sexes derive the greater benefit from sanatorium treatment, the following table has been compiled:—

TABLE 20.—*Position at the end of 1921 of 2,310 Patients who applied for Treatment during the five years 1914-18, and received one or more courses of Sanatorium Treatment, sub-divided into males and females.*

Stage† of Disease of Applicants (1914-18).	Sputum.†	Sex.	NET* No. of Patients who completed Sanatorium Treatment.	Position at end of 1921.		
				Fit for Work. %	Unfit for Work. %	Died. %
I. and I.S. ...	Positive ...	M.	328	42.7	12.2	45.1
		F.	163	32.5	11.6	55.8
	Neg. or None	M.	382	80.1	9.1	10.7
		F.	389	83.0	6.7	10.2
II. and II.S	Positive ...	M.	480	19.3	12.7	68.0
		F.	292	24.0	4.8	71.2
	Neg. or None	M.	152	60.5	14.4	25.0
		F.	124	62.9	14.5	22.5

For footnotes see bottom of previous page—58.

The foregoing tables, together with the detailed tables in Appendix VI., contain much information bearing on the after-results of sanatorium treatment, and innumerable subsidiary tables can be compiled from them to illustrate a number of points, but space does not allow of all problems being dealt with in detail. The main conclusions may be given as follows :—

1.—That, out of a total of 1262 “early” stage patients who commenced treatment during the five years 1914-18, 822, or 65·1 per cent., were fit for work at the end of 1921, and 120, or 9·5 per cent., were living, but unfit for work ; similarly, out of a total of 1048 “intermediate” stage cases, 333, or 31·7 per cent., were fit for work at the end of 1921, and 115, or 10·9 per cent., were living, but unfit for work.

2.—That the diagnosis of the disease whilst it is in the early stages is of the utmost importance.

3.—That treatment afforded to patients in the early stages of the disease, who have a negative or absent sputum is three or four times more successful than when the sputum has become positive ; and in the case of patients in the “intermediate” stages, those with a negative or absent sputum benefit at least twice as much in comparison with positive sputum cases.

4.—That the mortality from pulmonary tuberculosis is greater among patients with a positive sputum aged between 15 and 25 years than in the other age groups.

5.—That the mortality from pulmonary tuberculosis is slightly heavier among females with a positive sputum than males, and is almost the same for both sexes when the sputum is negative or absent.

ANALYSIS OF AFTER-HISTORIES OF PATIENTS WHO RECEIVED SANATORIUM TREATMENT AND THOSE WHO RECEIVED TREATMENT AT HOME.

There is evidence of a considerable divergence of opinion existing in the country as to the value derived by patients generally from sanatorium treatment. In order to obtain data on which to form an opinion, it would be necessary to compare one group of patients who have undergone sanatorium treatment with another group, similar in age, sex, environment, location and severity of the disease who have *not* undergone sanatorium treatment. An exact scientific experiment on these lines may not be possible. What has been done in this report is to contrast groups of patients who are as nearly as possible similar.

In several previous reports attempts have been made to prepare tables making such contrast possible, and in the present report, with the new tables of after-histories of patients (Tables G and I of Appendices VI. and VII.), it has been possible to set out the comparative figures in better order. Table G, dealing with "Sanatorium cases," may be compared in considerable detail with Table I, "Non-Sanatorium cases," and for convenience certain essential particulars have been extracted from the tables in question and given in Table 21 here inserted. The conclusions will be found on page 63.

It may be repeated that only patients who completed a stay of two months or more in sanatorium have been classified as "Sanatorium cases," and that many of the "Non-Sanatorium cases" have received treatment in pulmonary hospitals or observation hospitals or have had a stay of less than two months in a sanatorium, their treatment being interrupted for some reason or other.

Patients who were in an advanced stage of the disease when first commencing treatment under the County scheme are not included in the analysis, as no useful purpose would be served thereby. The small proportion of patients suffering from both pulmonary and non-pulmonary tuberculosis are included in this analysis.

TABLE 21.—*Analysis of After-Histories of (1) 2310 Patients who have completed a Course of Sanatorium Treatment, associated with Dispensary Treatment or Supervision, and (2) 1757 Patients who have undergone Treatment at Home or in Institutions other than Sanatoria.*

Stage† of Disease on Application and Sputum.†	Age Groups.	Sex.	Position at end of 1921 of Adult Patients who applied during 1914-18 (five years).							
			Patients who completed two months or more <i>Sanatorium Treatment</i> .				Patients who received <i>Home Treatment</i> . (Non-Sanatorium cases).			
			Net.* No. of Patients treated.	Fit for Work. %	Unfit for Work. %	Died. %	Net.* No. of Patients treated.	Fit for Work. %	Unfit for Work. %	Died. %
a) I. and I.S Positive	15-25	M	74	36.5	6.7	56.7	26	19.2	7.7	73.1
		F	45	17.8	4.4	77.8	15	13.3	13.3	73.3
	25-45	M	190	44.7	10.5	44.7	98	44.9	4.1	51.0
		F	111	36.2	14.4	48.6	41	41.5	7.3	51.2
	45-65	M	64	43.7	23.4	32.8	30	13.3	3.3	83.3
		F	7	57.1	14.3	28.6	6	33.3	...	66.6
	Total ...	M	328	42.7	12.2	45.1	154	34.4	4.5	61.0
		F	163	32.5	11.6	55.8	62	33.9	8.1	58.0
	Neg. or None	M	124	83.1	6.4	10.5	75	73.3	4.0	22.7
		F	117	81.2	6.8	11.9	55	69.1	5.4	25.4
b) II. and II.S Positive	15-25	M	96	6.2	8.3	85.4	78	2.6	2.6	94.8
		F	92	14.1	6.5	79.3	94	4.3	...	95.7
	25-45	M	272	22.8	12.9	64.3	226	9.3	3.1	87.6
		F	172	25.0	4.1	70.9	152	11.2	1.3	87.5
	45-65	M	112	22.3	16.1	61.6	163	10.4	9.2	80.4
		F	28	50.0	3.6	46.4	29	10.3	10.3	79.3
	Total ...	M	480	19.4	12.7	67.9	467	8.6	5.1	86.3
		F	292	23.9	4.8	71.2	275	8.7	1.8	89.5
	Neg. or None	M	32	75.0	9.4	15.6	31	41.9	3.2	54.8
		F	37	59.4	13.5	27.0	45	22.2	2.2	75.6
c) III. and III.S Positive	15-25	M	71	56.3	15.6	28.1	83	31.3	7.2	61.5
		F	73	64.4	12.3	23.3	69	40.6	2.9	56.5
	25-45	M	49	57.1	16.3	26.5	97	32.9	9.3	57.7
		F	14	64.3	28.6	7.1	20	70.0	10.0	20.0
	45-65	M	152	60.5	14.5	25.0	211	33.6	7.6	58.8
		F	124	62.9	14.5	22.6	134	38.8	3.7	57.5
	Total ...	M	328	57.8	17.8	24.7	415	34.4	10.3	55.3
		F	191	61.3	15.8	22.9	143	39.9	6.3	53.8
	Neg. or None	M	124	83.1	6.4	10.5	75	73.3	4.0	22.7
		F	117	81.2	6.8	11.9	55	69.1	5.4	25.4

* Net number arrived at after deducting patients left County, untraced, ceased treatment for other than medical reasons, died from other than tuberculosis, and diagnosis not confirmed.

† Where sputum is shown as positive, tubercle bacilli have been found at some time during treatment.

‡ Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms, as suggested by Philip.

The following conclusions emerge from the figures and tables given in this chapter :—

1.—As the result of the analysis of 4,067 histories of adults commencing treatment during the five years 1914-18, so far as comparison is possible, patients in the early and intermediate stages of pulmonary tuberculosis who have undergone a course of sanatorium treatment, even for three or four months, fare appreciably better in health in later years than those who do not receive such form of treatment. Thus of 1,047 patients, early and intermediate stages, with negative or absent sputum receiving sanatorium treatment, the deaths were 14·0 per cent; whereas of 799 patients receiving home treatment the deaths were 37·7 per cent. On the other hand, of 1,263 cases with positive sputum receiving sanatorium treatment the deaths were 61·2 per cent. as against 81·3 per cent amongst 958 home treatment cases. The difference is not very great, except in negative or absent sputum cases, and, were the two groups scientifically comparable, would raise doubt on the usefulness of sanatorium treatment for certain classes of patients.

2.—Both in regard to sanatorium and non-sanatorium cases, early diagnosis is a very important factor in the successful treatment of pulmonary tuberculosis.

3.—In regard to sanatorium and non-sanatorium cases, patients with a negative or absent sputum throughout treatment are much more likely to remain fit for work, and consequently less liable to succumb to the disease than those with tubercle bacilli in the sputum.

TREATMENT IN PULMONARY HOSPITALS.

In a large County area the problem of dealing with advanced and highly infectious cases is more difficult than in a County Borough. Except under special circumstances, the best method of providing accommodation for patients who are acutely ill and require to be isolated on general public health grounds is to treat them in buildings attached to isolation hospitals, both on the grounds of economy and to enable such patients to be in small numbers in each institution and to be as near their homes as possible.

The more advanced the disease of tuberculosis of the lungs, the greater is the danger of spread of infection, because, as a general rule, far more of the infecting agents, the tubercle bacilli, are set free from such cases. The larger the number, therefore, of patients in the advanced stages of pulmonary tuberculosis who can be isolated away from unsuitable home conditions the more rapidly will it be possible to make real progress with the prevention of this disease.

The treatment, therefore, which is given in pulmonary hospitals *is quite distinct from that at sanatoria*. In the latter are treated early cases for a probable arrest of the disease. In the former, patients are treated for the purposes of isolation, for observation, and for education in general methods of hygiene which can be applied in certain selected cases, when the patient returns home, much more effectively after a short period of institutional treatment.

Following on these general principles, the Lancashire County Council have made arrangements with as many existing institutions as possible for the treatment of patients. Table 22 is inserted on page 68, giving the number of admissions and discharges from July, 1912, up to the end of 1921, the average duration of such treatment, and other particulars.

As far as possible the patients from each of the five dispensary areas requiring isolation are accommodated in the pulmonary hospitals situated in the area, and, in order that the consultant tuberculosis officers may keep themselves acquainted with the cases, arrangements have been made (with one or two exceptions, where only occasional County cases are treated) for the tuberculosis officers to visit periodically the pulmonary hospitals in their area and confer with the medical superintendents on the following matters:—(1)—The question of extension of patients' treatment or their return home, having special regard to the home conditions which are known to the tuberculosis officer; (2) the question as

to the patients' future treatment; (3) to deal with applications from patients for transfer to other institutions, or for their discharge home, and to settle, where possible, any difficulties or complaints by patients which may arise.

This procedure has enabled the highly infectious cases with unsatisfactory home conditions to remain at the pulmonary hospitals for long periods for the purpose of isolation, and for patients who have made good progress and are capable of light work to be transferred to sanatoria for the continuation of their treatment.

Brief particulars are here inserted of the arrangements existing for the use of accommodation at 14 pulmonary hospitals for County patients.

(1) AINSWORTH PULMONARY HOSPITAL, NEAR BURY.

By agreement with the Bury Joint Hospital Board, this hospital was used for the treatment of 30 advanced tuberculous cases from January, 1916, until August, 1921, when the Ministry of Health ordered that the hospital should revert for use for small-pox cases only.

No. of cases discharged during 1921 (eight months) was 50, whilst 2 died.

(2) BULL HILL PULMONARY HOSPITAL, DARWEN.

In 1913, an arrangement was made with the Darwen Corporation whereby County patients would be admitted to the pavilion at the Bull Hill Isolation Hospital. The pavilion accommodates 18 patients, and is now used for females only.

No. of cases discharged during 1921 was 36, whilst 9 died.

(3) BURNLEY DISTRICT PULMONARY HOSPITAL.

In September, 1919, an arrangement was made with the Burnley Joint Hospital Board to allow the County Council the use of occasional beds at the above hospital for the treatment of patients suffering from pulmonary tuberculosis. During 1920, it was found practicable to reserve 10 beds for County patients exclusively, with occasional additional beds.

No. of cases discharged during 1921 was 22, whilst 13 died.

(4) CHADDERTON PULMONARY HOSPITAL, RACEFIELD, ROYTON, NEAR OLDHAM.

An agreement was made on the 1st October, 1919, with the Chadderton, Royton, and Crompton Joint Hospital Board for the use of the new buildings, erected as a small-pox hospital, for the treatment of patients suffering from pulmonary tuberculosis.

This institution is dealt with further on page 81.

The hospital accommodates 30 patients (females).

No. of cases discharged during 1921 was 59, whilst 18 died.

(5) ECCLESTON HALL PULMONARY HOSPITAL, NEAR ST. HELENS.

In May, 1918, arrangements were made with the St. Helens Corporation to allow the County Council the use of occasional beds at the Eccleston Hall Pulmonary Hospital when such accommodation was not required for Borough patients.

No. of cases discharged during 1921 was 5, whilst 4 died.

(6) HEATH CHARNOCK PULMONARY HOSPITAL, NEAR CHORLEY.

By agreement with the Chorley Joint Hospital Board, the County Council erected, equipped, and furnished two pavilions, one for male and the other for female patients, containing 16 and 14 beds respectively, together with a dining hall and some additional staff accommodation.

This institution is dealt with further on page 82.

No. of cases discharged during 1921 was 37, whilst 20 died.

(7) LINACRE PULMONARY HOSPITAL, NEAR LIVERPOOL.

In October, 1915, an arrangement was made with the Bootle Corporation to allow the County Council the use of not exceeding five beds at the Linacre Pulmonary Hospital when such accommodation was not required for patients from the Borough.

No. of cases discharged during 1921 was 3, whilst 4 died.

(8) LUNESIDE PULMONARY HOSPITAL, LANCASTER.

By an agreement with the Lancaster Corporation, which took effect from the 1st January, 1915, for a period of 10 years, the County Council were allowed the use of 21 beds at the isolation hospital, which had been adapted for the reception and treatment of persons suffering from tuberculosis.

At the request of the Corporation, the Consultant Tuberculosis Officer for Dispensary Area No. 1 (Dr. A. D. Brunwin) has acted as visiting physician of this hospital since 1st July, 1921.

No. of cases discharged during 1921 was 52, whilst 15 died.

(9) MARLAND PULMONARY HOSPITAL, ROCHDALE.

In November, 1918, an arrangement was made with the Rochdale Corporation to allow the County Council the use of six beds at the Marland Pulmonary Hospital, and in November, 1920, the Corporation were able to increase the number of beds reserved to 15—13 females and 2 males.

No. of cases discharged during 1921 was 35, whilst 11 died.

(10) THE LIVERPOOL HOSPITAL FOR CONSUMPTION, MOUNT PLEASANT, LIVERPOOL.

The Committee of Management allow the County Council the use of occasional beds at this Hospital.

No. of cases discharged during 1921 was 5, whilst 2 died.

(11) PEEL HALL PULMONARY HOSPITAL, LITTLE HULTON.

The work of adapting the above premises belonging to the County Council for the purposes of a pulmonary hospital was completed in 1921, the first patient being admitted on the 30th August. Accommodation is provided for 45 advanced male patients.

This institution is dealt with further on page 82.

No. of cases discharged during 1921 (four months) was 43, whilst 20 died.

(12) PEMBERTON PULMONARY HOSPITAL, WIGAN.

By an agreement with the Wigan Corporation, which took effect from the 20th December, 1915, for a period of ten years, the County Council were allowed the use of four beds at the Pemberton Pulmonary Hospital.

No. of cases discharged during 1921 was 10, whilst 7 died.

(13) WESTHULME PULMONARY HOSPITAL, OLDHAM.

In May, 1914, an arrangement was made with the Oldham Corporation whereby five beds, if required, would be reserved for County patients at the Westhulme Pulmonary Hospital.

No. of cases discharged during 1921 was 14, whilst 7 died.

(14) WOLSTENHOLME HALL PULMONARY HOSPITAL, NORDEN.

In August, 1920, the Rochdale Corporation equipped Wolstenholme Hall, Norden, as a pulmonary hospital for male patients only, and they agreed to reserve 10 beds for County patients, this number in November being increased to 15. The first patient was admitted on the 31st August, 1920.

No. of cases discharged during 1921 was 41, whilst 12 died.

TABLE 22.—*Summary of Treatment in Pulmonary Hospitals.*

The following table gives particulars of the patients treated at the various pulmonary hospitals, shown under the appropriate stages. From this statement it will be observed that 2,556 persons were admitted to and discharged from pulmonary hospitals from July, 1912, to the 31st December, 1921 :—

† Stage of Disease on Admission, Age and Sex.			Total No. of Admissions.	Total No. of Deaths in Hospital.	Total No. of Transfers to Sanatoria.	Total No. of Discharges.	Average duration of Treatment in months.	Maximum duration of Treatment in months.
Stage I. & I.S.—								
Children	M.	...	2	...	1	1	3.0	4.0
	F.	...	2	...	...	2	10.0	14.8
Adults	M.	...	78	8	6	64	3.4	13.5
	F.	...	49	2	4	43	3.9	10.8
Total	...	...	131	10	11	110	...	...
Stage II. & II.S.—								
Children	M.	...	11	2	...	9	3.9	11.0
	F.	...	11	1	1	9	6.7	12.0
Adults	M.	...	531	90	27	414	4.1	22.0
	F.	...	319	66	9	244	4.5	18.0
Total	...	...	872	159	37	676	...	...
Stage III. & III.S.—								
Children	M.	...	12	2	1	9	3.3	8.0
	F.	...	25	6	5	14	5.4	11.5
Adults	M.	...	970	265	20	685	4.3	56.0
	F.	...	546	151	11	384	4.1	23.0
Total	...	...	1553	424	37	1092	...	...

† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms as suggested by Philip.

N.B.—Patients under 15 years classified as children; 15 years and over classified as adults.

TREATMENT IN GENERAL HOSPITALS.

NON-PULMONARY TUBERCULOSIS.

The majority of the General Hospitals in Lancashire have become approved by the Ministry of Health as residential institutions for the treatment of non-pulmonary tuberculosis. Arrangements have been made by the County Council with the Management Committees of 20 of such General Hospitals and of one Special Hospital (Manchester and Salford Hospital for Skin Diseases) for the treatment of cases recommended by the tuberculosis officers for admission to these institutions. By co-operation with the hospital authorities, particulars of any County tuberculous patients who present themselves direct at the hospitals are referred to the central office or the nearest tuberculosis dispensary, so that, if necessary, the patient may be dealt with under the County Scheme.

The large majority of the patients sent to the Manchester and Salford Hospital for Skin Diseases receive out-patient treatment, travelling, as directed, at intervals of one, two, four or more weeks, sufficient medicine and ointment being given to them for use between visits. The tuberculosis officer is informed of the necessary frequency for the patients' attendances and the nature of the treatment provided at the hospital. If attending less often than weekly, the tuberculosis officers keep the patients under close supervision, and are responsible for their carrying out treatment.

As occasion arises non-pulmonary cases presenting a considerable degree of difficulty in diagnosis and in the line of treatment to be followed are sent to general hospitals for specialist surgical opinion.

For children requiring prolonged treatment for non-pulmonary tuberculosis, special arrangements exist with the authorities of three hospitals, but during 1922 further accommodation is being obtained at the Lord Mayor Treloar Cripples' Hospital, Alton, Hants, and also at the Heatherwood Hospital, Ascot, Berks, to meet the needs of such cases. Most excellent results are achieved in the treatment of surgical tuberculosis in children.

(a) IMMEDIATE RESULTS OF INSTITUTIONAL TREATMENT.

A summary of the condition on discharge of patients treated during 1921 in the 20 general hospitals, three children's special hospitals, and in the Manchester and Salford Skin Hospital is given overleaf :—

TABLE 23.—*Condition of Patients discharged from General and Special Hospitals.*

Condition on Discharge.	General Hospitals.		Special Hospitals for Children.		Skin Hospital.			
					Out-Patient.		*In-Patient.	
	M.	F.	M.	F.	M.	F.	M.	F.
Cured	40	33	4	12	12	13	...	...
Relieved	41	19	...	1	...	...	...	...
Improved	73	51	3	7	4	1	22	19
Stationary	9	19	3	...	...	1	...	...
Worse	3	...	...	...	...	...	...	...
Died	6	4	...	1	1	1	...	...
Left for other than medical reasons	8	9	2	1	6	9	...	1
Transferred to other Institutions ...	5	5	...	2	4	3	1	...
Diagnosis not confirmed	...	...	...	...	4	5	...	1
Total	185	140	12	24	31	33	23	21
Still under treatment	32	27	19	11	79	144	2	2
	217	167	31	35	110	177	25	23
GRAND TOTAL	384		66		287		48*	

* 39 in-patients resumed out-patient treatment after discharge. Number of individual patients treated at Manchester and Salford Skin Hospital during 1921 was 296.

(b) AFTER-HISTORIES OF PATIENTS WHO RECEIVED INSTITUTIONAL TREATMENT.

A new table is introduced below, showing the after-histories of non-pulmonary cases (adults and children) who have received treatment in General and Special Hospitals, associated with Home Treatment and Dispensary Supervision or Treatment :—

TABLE 24.

Year of Application for Treatment.	Adults (15 and over) or Children.	*Net. No. of Patients who received Hospital Treatment.	Position at end of 1921.					
			Fit for Work or School.		Unfit for Work or School.		Died from Tuberculosis.	
			No.	%	No.	%	No.	%
1914 ...	Adults ...	30	19	63.3	1	3.3	10	33.3
	Children ...	...	...	...	...	...	...	...
1915 ...	Adults ...	62	49	79.0	3	4.8	10	16.1
	Children ...	3	2	66.6	...	...	1	33.3
1916 ...	Adults ...	70	53	75.7	6	8.6	11	15.7
	Children ...	12	6	50.0	...	...	6	50.0
1917 ...	Adults ...	116	86	74.1	7	6.0	23	19.8
	Children ...	30	22	73.3	4	13.3	4	13.3
1918 ...	Adults ...	118	86	72.9	16	13.5	16	13.5
	Children ...	39	34	87.2	2	5.1	3	7.7
1919 ...	Adults ...	105	68	64.8	19	18.1	18	17.1
	Children ...	36	27	75.0	7	19.4	2	5.5
1920 ...	Adults ...	118	72	61.0	37	31.3	9	7.6
	Children ...	59	46	77.9	10	16.9	3	5.1

* Net Number arrived at after deducting patients left County, untraced, ceased treatment for other than medical reasons, died from other than tuberculosis, diagnosis not confirmed, and still in hospital on 31/12/21.

The after-histories of children suffering from non-pulmonary tuberculosis who received treatment at one of the Special Hospitals (*e.g.*, Leasowe, Heswall, &c.) are given in the following new table :—

TABLE 25.—*After-Histories of *CHILDREN suffering from Non-Pulmonary Tuberculosis who have received treatment at Special Children's Hospitals, associated with Home Treatment and Dispensary Treatment or Supervision.*

Year of Application for Treatment.	Part of Body affected.	†Net. No. of Children who received Special Hospital Treatment.	Position at end of 1921.					
			Disease Quiescent or Arrested	Disease Active.	Disease Doubtful.	Died from Tuberculosis.	Fitted for School	Unfit for School.
1914	Alimentary ...	...	...	...	...	...	...	...
	Glands ...	...	...	...	...	...	...	...
	Joints and Bones	2	1	...	...	1	1	...
1915	Alimentary ...	1	1	...	...	...	1	...
	Glands ...	1	...	...	...	1	...	...
	Joints and Bones	5	2	1	...	2	2	1
1916	Alimentary ...	1	1	...	...	...	1	...
	Glands ...	4	4	...	...	...	4	...
	Joints and Bones	4	3	...	...	1	2	1
1917	Alimentary ...	2	2	...	...	...	2	...
	Glands ...	5	5	...	...	...	5	...
	Joints and Bones	10	5	3	...	2	5	3
1918	Alimentary ...	2	1	1	...	...	...	2
	Glands ...	10	10	...	...	...	10	...
	Joints and Bones	11	6	2	...	3	5	3
1919	Alimentary ...	4	2	1	...	1	3	...
	Glands ...	5	3	2	...	...	3	2
	Joints & Bones	8	4	3	1	...	5	3
	Miscellaneous ...	1	1	...	...	...	1	...
1920	Alimentary ...	5	5	...	...	...	5	...
	Glands ...	7	3	4	...	...	5	2
	Joints and Bones	6	4	1	...	1	4	1
TOTAL		94	63	18	1	12	64	18

* Children—Persons under 15 years of age at the end of 1921 or date of death.

† Net Number arrived at after deducting patients left County, untraced, ceased treatment for other than medical reasons, died from other than tuberculosis, diagnosis not confirmed, and still in hospital on 31/12/21.

It is satisfactory to note that there has been considerable success in the institutional treatment afforded to children at the special hospitals taking such cases. A big advance has been made in recent years in the treatment of crippled children, and the general claims made as to the effectiveness of the new methods receive confirmation in the foregoing table.

INSTITUTIONAL ACCOMMODATION.

On the 31st December, 1921, there were altogether 641¹ beds at sanatoria and hospitals occupied by County patients, as compared with 555 at the end of 1920. The increase of 91 beds was brought about mainly by the opening of Peel Hall Pulmonary Hospital and Oubas House Children's Sanatorium, re-opening of Chadderton Pulmonary Hospital after being used for small-pox cases, and occupation of additional beds in several general hospitals.

Below is given a summary of the beds occupied at the several types of institutions at the end of 1921, and also comparative figures for the previous four years :—

TABLE 26.

Type of Institution.	Number of beds in occupation at end of—				
	1917	1918	1919	1920	1921
Sanatoria	313	280	258	262	268
Sanatoria and Training Colonies ...	...	...	...	2	9
Pulmonary Hospitals	118	137	164	162	199
Observation Hospitals	7	8	8	5	8
General Hospitals (Non-Pulmonary)	23	26	43	41	60
Children's Sanatoria and Hospitals	48	84	79	83	97
TOTAL	509	535	552	555	641

The names of the institutions and the number of beds taken by County patients are set out fully in Appendix V.

COUNTY SANATORIA AND PULMONARY HOSPITALS.

(1) HIGH CARLEY SANATORIUM, NEAR ULVERSTON.

Medical Superintendent :

E. H. Allon Pask, M.D. (Lond.), L.R.C.P. (Lond.), M.R.C.S. (Eng.).

Assistant Medical Superintendent :

Henry J. Villiers, L.R.C.P.I., L.R.C.S.I.

Matron : Miss E. Woosey.

High Carley Sanatorium is situated about three miles west of Ulverston, to the south of the main road to Barrow-in-Furness. The buildings stand in about 23 acres of ground, and accommodation at the end of the year was provided for 112 patients, which includes the extension (completed in 1921) on the male side for 26 patients.

A new recreation room for male patients was also provided during the year, and, in addition, an army hut has been adapted as a recreation room for female patients.

The erection of a house in the grounds for the Medical Superintendent was completed early in 1922, and the lodge vacated by him is now occupied by the Assistant Medical Superintendent ; this, in turn, allows two rooms in the Administrative block to be utilised for the additional nursing staff engaged.

It has also been decided to provide occupational training at the sanatorium, and an army hut has been erected and is being equipped as a workshop for this purpose.

An agreement exists between the County Council and the Barrow-in-Furness Corporation for the reservation at High Carley of a number of beds, not exceeding 16, for Borough patients. These beds when not required are filled by County patients, in accordance with arrangements with the Corporation.

In November, 1920, the County Council, with the approval of the Ministry of Health, decided to give, where required, dental treatment to County patients at this sanatorium. The necessary dental equipment has been provided, and a visiting dentist who was appointed commenced work early in 1921. For the period 7th May to 31st December, 1921, 238 patients received some form of dental treatment.

The following table shows the condition of the 1,484 patients discharged (excluding deaths) from May, 1916, to the 31st December, 1921 :—

Condition on Discharge of 1,484 persons who received treatment in High Carley Sanatorium (1916 to 1921).

†Stage of Disease on Admission.	Total number Discharged.	Average Duration of Treatment in Months.	Condition on Discharge.				
			Quiescent.	Improved.	Stationary.	Worse.	*No Information.
			%	%	%	%	%
Stage I. & I.S.—							
Males ...	529	2·8	32·7	42·9	2·6	2·1	19·6
Females ...	477	3·5	51·6	30·8	5·6	1·7	10·3
Total ...	1006	...	41·6	37·2	4·1	1·9	15·2
Stage II. & II.S.—							
Males ...	270	3·1	10·0	61·8	5·9	4·8	17·4
Females ...	181	4·2	19·3	56·3	7·2	9·4	7·7
Total ...	451	...	13·7	59·6	6·4	6·6	13·5
Stage III. & III.S.—							
Males ...	16	3·2	...	62·5	12·5	6·2	18·7
Females ...	11	5·4	...	81·8	...	9·1	9·1
Total ...	27	...	...	70·4	7·4	7·4	14·8

* Includes patients discharged for other than medical reasons.

† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms, as suggested by Philip.

Dr. Pask reports as follows on matters relating to the treatment of the patients and the administration of the sanatorium :—

The treatment of the patients at High Carley Sanatorium during the year ended 31st December, 1921, has been carried out on the usual approved sanatorium principles—abundance of fresh air, full use of sunlight, a liberal supply of nourishing food, systematic rest, together with graduated exercise and work. The popularity of graduated work varies considerably with individual patients, but, speaking generally, there is no doubt that the patient who does his work conscientiously derives far greater benefit from the treatment than one who looks upon work as something to be avoided.

The men patients do the following duties according to their physical fitness : clean brasses, sweep verandahs, clean windows, gardening (hoeing, weeding, grass-cutting, potato planting and gathering, &c.).

In individual cases when a man is skilled in a special trade, if he prefers to do something connected with his trade, an attempt is made to set him some form of work which to him is more

interesting than gardening, and in this way he is much more contented, and some really useful work has been done which is beneficial to the institution. In this way, "poultry runs" have been made, minor improvements to the engineering plant effected, broken windows repaired, and rooms distempered. In the improvement to the engineering plant is included the fitting of additional electric lights, repairs and extensions to the local telephone apparatus, &c. It is hoped to extend this work considerably when the workshops are equipped.

The women patients peel the potatoes, clean knives and forks, look after the poultry, &c.

Pneumothorax treatment has been attempted in a few selected cases towards the end of the year, but up to then sufficient time had not elapsed to form any very definite opinion as to the results of the treatment. An X-Ray apparatus to control this treatment has been greatly wanted, and I am glad one is being provided.

Lectures are given to all the patients in the dining-room every month by me, in order to explain the rationale of sanatorium treatment, the necessity of carrying out, as far as possible, the treatment when they return home, the danger resulting from indiscriminate spitting, &c. Questions are invited at the end of the lecture, and in this way co-operation between the patients and staff which is so essential at a sanatorium is fostered.

It is essential that cases of pulmonary tuberculosis should be in a position to masticate and digest their food properly, in order to obtain the fullest benefit from the food taken; consequently, dental treatment was commenced at the beginning of the year, and has been beneficial; a large number of patients have received treatment. Mr. Miller, the dental surgeon, visits the sanatorium once a week.

During recreation time, bowls, croquet, billiards, and card games are indulged in, and periodically mixed whist-drives are arranged. Every month during the winter, concerts, dramatic performances, lantern lectures, &c., are given by various organisations in the district, and frequently in the summer an open-air concert is given if the weather is favourable.

For the year 1921, 1082 specimens of patients' sputum were examined for tubercle bacilli, with the following result: positive 566, negative 516.

OUBAS HOUSE CHILDREN'S SANATORIUM, ULVERSTON.

In May, 1920, the County Council came to terms with Miss Keswick, the lessor, to accept an assignment, for the residue of a term of 21 years (dating from November, 1912) of the premises known as Oubas House, Ulverston, until then used by Miss Keswick as a hospital for children.

The house stands in its own grounds (about one acre in extent), is substantially built, and is in good condition. The whole of the premises are lighted with electricity generated on the premises by means of a gas engine and dynamo, with a range of accumulators in the battery room. The necessary alterations required to adapt the house for the purposes of a sanatorium have been carried out, and accommodation was provided for 18 children and later increased to 20 by the provision of a double shelter. The sanatorium was opened for patients in July, 1921. A portion of an army hut has been adapted for use as a classroom. Educational instruction is given to the children in conformity with the requirements of the Board of Education.

This sanatorium is administered in conjunction with the High Carley Sanatorium, the nursing staff at Oubas House consisting of a sister-in-charge, two probationer nurses (one of whom acts as night-nurse), and also one certificated teacher.

For the period 2nd August to 31st December, 1921, ten patients (girls) were treated and discharged, their condition being as follows :—

Condition on discharge of 10 girls who received treatment in Oubas House Children's Sanatorium.

†Stage of Disease on Admission.	Total number Discharged (Females).	Average Duration of Treatment in Months.	Condition on Discharge.				
			Quiescent.	Improved.	Stationary.	Worse.	*No Information.
			%	%	%	%	%
Stage I. & I.S.—	7	3.2	85.7	14.3	...	...	...
Stage II. & II.S	2	3.1	...	50.0	...	50.0	...
Stage III. & III.S	1	3.7	100	...	...	...	...

† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms as suggested by Philip.

The Medical Superintendent reports as follows on matters relating to the treatment of patients and the administration of the sanatorium :—

The results obtained from the treatment of the patients at this sanatorium have been most gratifying, and, in my opinion, children are much more satisfactorily treated and the results obtained are much more beneficial than in an institution where they are mixed with adults.

The appointment of a teacher to instruct the children has been very beneficial to them, both from an educational and also from a treatment point of view. Instruction is given in the usual elementary subjects, together with nature study and hand-work. The latter two subjects proved very popular with the children, and in this way the monotony of a long stay in an institution has been considerably diminished; this part of the curriculum is eagerly looked forward to, and some really good fancy basket work has been done by the children. The children are taught for the most part four hours daily in the schoolroom, but the weakly ones receive less than four hours daily, and sometimes, if a patient is bedridden for a long time, she is instructed for a short time daily in bed, provided she is not too ill.

The patients and staff have greatly appreciated the special interest shown in the sanatorium by Lady Fell and Mrs. Hutchinson, who have made periodical visits. These ladies have taken a great and very kindly interest in the institution, and their gifts of toys and books have been greatly appreciated, and the children look forward to their welcome visits.

The institution since it has been opened has evoked a considerable amount of interest in the district, and we have received many small presents for the children, the donors of which are too numerous to mention, but it goes to show that the work done among the children is appreciated by the people of the district, and numerous letters of thanks and personal appreciation from the parents of the children have also been received.

(2) ELSWICK SANATORIUM, NEAR KIRKHAM.

Medical Superintendent :

George Leggat, M.B., Ch.B., D.P.H. (Aberdeen).

Matron : Miss I. G. Barclay.

This institute is situate on the east side of Elswick Village, and is about six miles from Kirkham Station. The buildings and about 11 acres of land belong to the Fylde, Preston, and Garstang Joint Smallpox Hospital Board, and were taken on lease by the Lancashire County Council in 1913 for a period of 21 years. There is accommodation for 57 patients.

The houses provided under the County housing scheme were occupied by three of the male employees for whom they were intended in September, 1921.

Dental treatment is afforded to suitable patients at this sanatorium. The necessary dental equipment has been provided, and a visiting dentist (Mr. J. J. Ward) appointed, who commenced work on the 14th April, 1921. During the year, 156 patients received some form of dental attention.

The following table gives the condition of the 979 patients discharged (excluding deaths) since the Institution was opened on the 27th July, 1914, to the 31st December, 1921 :—

Condition on discharge of 979 persons who received treatment in Elswick, Sanatorium (1914-1921).

†Stage of Disease on Admission.	Total number Discharged.	Average Duration of Treatment in Months.	Condition on Discharge.					
			Quiescent.	Improved.	Stationary.	Worse.	*No Information.	
			%	%	%	%	%	
Stage I. & I.S.—								
Males ...	258	3·8	53·1	23·6	2·7	3·5	17·0	
Females ...	162	4·3	58·0	30·9	2·5	3·1	5·5	
Total ...	420	...	55·0	26·4	2·6	3·3	12·6	
Stage II. & II.S.—								
Males ...	317	4·3	28·7	45·1	4·7	5·4	16·1	
Females ...	161	4·6	34·2	45·9	7·4	7·4	4·9	
Total ...	478	...	30·5	45·4	5·6	6·1	12·3	
Stage III. & III.S.—								
Males ...	57	4·6	14·0	64·9	14·0	1·7	5·3	
Females ...	24	4·2	16·7	58·3	12·5	8·3	4·2	
Total ...	81	...	14·8	62·9	13·6	3·7	4·9	

* Includes patients discharged for other than medical reasons.

† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms as suggested by Philip.

The Medical Superintendent reports as follows on matters relating to the treatment of patients and the administration of the sanatorium :—

The following treatment is carried out at the sanatorium :
Rest and auto-inoculation ; graduated exercise and work. It is hoped to introduce treatment by artificial pneumothorax in selected cases, but this is dependent upon the provision of an X-Ray installation.

As the total area of the grounds only covers 11 acres, it has not been found possible to perform any system of graduated exercise wholly within the grounds ; patients on exercise are, therefore, allowed to carry out their walks on certain marked roads, as far as possible arranged so that there can be no communication

between the sexes. I am glad to report that for the past twelve months the patients have never abused this privilege. The extent of the walks is graded by time up to three hours per day.

Various kinds of work have been grouped and tabulated so as to form four grades. Every endeavour is made to put the patient on to work in which he will take a personal interest. When a patient becomes fit for grading, as far as possible he is put on to similar work to that which he has been accustomed in civil life. If this cannot be arranged, he is allowed to choose an occupation from his particular grade. The occupations provided—beyond those included in the first two grades, which are mainly routine ward work and general tidying up—are gardening, pig rearing, poultry keeping, and carpentry.

The keeping of poultry was introduced in March, 1921, and so far has been very successful. This work is now entirely carried out by the patients, and the keenness with which they enter into the spirit of the work is shown by the number of prizes they have gained at the local agricultural shows. In addition, correspondence classes have been taken during the winter months, and one has passed his examination to become a member of the British Society of Aviculturists. He is now in full charge of the poultry, and acts as instructor to the other patients. At present there are 45 second year's hens and 46 cockerels and pullets. Land has been rented on the west side of the sanatorium, where work is at present being carried out by the patients for the purpose of increasing the number of poultry up to 400. It is then hoped that the institution will be self-supporting as regards the supply of eggs.

Although suitable accommodation for carpentry is rather deficient, an endeavour has been made to introduce this type of work. An old store hut has been gutted and remodelled, large windows, which are made to open freely, have been put in, wooden floors laid down, and a couple of benches erected. The whole of this work has been entirely carried out by the patients; one in particular, who has shown marked skill in this line, has been put in charge. A complete set of tools has also been supplied. In addition to carrying out general repairs, all the poultry cabins are now being built by the patients at a total cost of about £10 for material, whereas similar cabins in the open market could not be purchased under £20.

There is a well-equipped recreation-room for the male patients, containing a medium-sized billiard table, &c. At present there is no similar accommodation for the female patients, which is rather strongly felt. Outside, there is a bowling green and putting lawn for male patients, and on the female side a croquet lawn is under construction, all of which have been laid out by patient labour. In front of the Administrative Block there is a well laid out tennis lawn and rose garden for the use of the staff. Concerts and entertainments have from time to time been given throughout the year.

Suitable recreation is a very important factor in sanatorium life, both for patients and staff, and more particularly in the long winter evenings. If a cinematograph show could be given once or twice a week, it would help a great deal to break the monotony of life which is the lot of those who are resident in a sanatorium through the winter months. Whist-drives, various competitive games, putting and bowling competitions are frequently got up among the patients.

At the end of two months, provided they are medically fit, patients are granted week-end leave. This is much appreciated by them, and is very seldom abused.

Patients are given lectures in groups on the day of admission, on the causation, prevention, and treatment of their disease. A course of weekly lectures for probationer nurses was commenced in the spring, and it is hoped to continue these throughout the winter months.

Previous to the introduction of dental treatment, in many cases, owing to the constant toxæmia resulting from foul mouths, and in some the entire absence of any sound teeth at all, it was almost impossible to hope for any good results. This has now been largely overcome, and the good results have correspondingly increased.

The discipline among the patients for the year has been very good. During the twelve months only three patients have been discharged for disciplinary reasons. I am glad to report that, on the whole, the patients appear to settle down better to sanatorium life than formerly, and are more willing to remain beyond the primary recommendation of two months.

(3) RUFFORD SANATORIUM AND TRAINING CENTRE.

The County Council acquired, on the 18th October, 1920, Rufford Hall, situated on the west side of the main road from Preston to Ormskirk, together with 302 acres of land. The property includes the Hall (containing heating apparatus, electric light installation, &c.), large out-buildings, coach-house, gardener's cottage, two lodges, greenhouses, together with growing and standing timber.

The Ministry of Health proposed to provide a training section for 50 patients, preference to be given to discharged sailors and soldiers, the object being that patients with unsuitable occupations should, after treatment in a sanatorium, be transferred to the training section and taught a trade.

The scheme progressed to the stage of obtaining tenders for the work of adaptation for a total of 148 patients, but all work now remains in abeyance on instructions from the Ministry of Health.

(4) WRIGHTINGTON HALL, NEAR WIGAN.

The County Council in November, 1920, decided to purchase Wrightington Hall and Estate, with a view to utilising it eventually for the provision of accommodation for 400 children and 80 adults.

The Hall is situated on the high road between Standish and Parbold, about six miles north-west of Wigan, and stands at an altitude of 300 feet above sea-level. The premises are in a good state of repair. The area of the Estate is 159 acres.

Plans were prepared for the adaptation of the buildings, but under instructions from the Ministry of Health no work was commenced, and the scheme now remains in abeyance.

(5) CHADDERTON PULMONARY HOSPITAL.

Visiting Medical Superintendent :

James Wood, M.B., Ch.B., D.P.H., R.C.P.S.I.

Matron : Miss E. Moseley.

An agreement was made on the 1st October, 1919, with the Chadderton, Royton, and Crompton Joint Hospital Board for the use of the new buildings, erected as a smallpox hospital, for the treatment of patients suffering from pulmonary tuberculosis. The hospital accommodates 30 patients.

Under the terms of the agreement with the Hospital Board, the premises had to be vacated of the tuberculous patients on the 14th October, 1920, owing to an outbreak of smallpox in the Board's area, and no further tuberculous patients were treated until 1st April, 1921.

(6) HEATH CHARNOCK PULMONARY HOSPITAL, NEAR CHORLEY.

Medical Superintendent :

J. W. Rigby, L.R.C.P. (Lond.), M.R.C.S. (Eng.).

Matron : Miss H. Sinclair.

By agreement with the Chorley Joint Hospital Board, the County Council erected, equipped, and furnished two pavilions, one for male and the other for female patients, containing 16 and 14 beds respectively, together with a dining-hall and some additional staff accommodation. The pavilions were opened in November, 1914. The County Council have provided a hut as a recreation room for male patients, and this was brought into use in 1921.

(7) PEEL HALL PULMONARY HOSPITAL, LITTLE HULTON.

Visiting Medical Superintendent :

G. Jessel, M.A., M.D. (Oxon.), D.P.H. (Manchester).

Matron : Miss A. Jones.

The Hall, with about 17 acres of land attached thereto, was presented in 1914 to the Lancashire County Council by Mr. A. Wynne-Corrie, and an additional 20 acres of land has been purchased. The adaptation of the Hall as a pulmonary hospital for the treatment of advanced and chronic cases suffering from tuberculosis—delayed owing to the outbreak of war—was completed in 1921, and the first patient was admitted on 30th August of that year.

Accommodation is provided for 45 male patients, and the Hospital serves principally Dispensary Area No. 4 in taking advanced, observation and educational cases.

HOME TREATMENT AND DISPENSARY TREATMENT OR SUPERVISION.

All notified cases of tuberculosis receive while at home dispensary supervision exercised through the tuberculosis officers and tuberculosis health visitors, in addition to the treatment that may be obtained from their medical practitioners. Ordinary medical treatment at dispensaries is not undertaken, unless the patient has no doctor or requires some special form of treatment. Patients with active disease are examined at frequent intervals, and placed for short periods of not less than three months on dispensary supervision, and granted other forms of treatment as found necessary. Quiescent or arrested cases are kept under supervision so long as they are well, and are reviewed annually.

It is highly desirable that there should be close co-operation between the medical practitioner or family doctor and the County tuberculosis officer, and, prior to each examination of patients by the latter, information is sent to the medical attendant as to time and place. In some cases general practitioners confer with tuberculosis officers in person, to their mutual advantage, and in other cases this end is secured by telephone or correspondence.

The official Regulations with regard to domiciliary treatment remained in force until the 30th April, 1921, when, with the cessation of sanatorium benefit, they became superseded by the "National Health Insurance (Medical Benefit) Amendment Regulations (No. 2), 1921." Tuberculous insured persons from 1st May, 1921, receive domiciliary treatment from their insurance practitioners as part of medical benefit allowed under the National Insurance Acts.

Under the new Regulations mentioned above, co-operation between the insurance practitioner and the tuberculosis officer is further encouraged and made part of the official procedure, as will be seen by the extract given below :—

" A practitioner is required (a) to prepare and transmit to the medical officer, as defined in paragraph (13) of this Clause [*i.e.*, the Regional Medical Officer of the Ministry of Health], reports in the form set forth in the seventh Schedule to these Regulations in regard to each patient who is suffering from tuberculosis, the first of such reports to be made when treatment is first required to be given by reason of tuberculosis, and subsequent reports at such reasonable intervals, not exceeding three months, as may be arranged between the practitioner and the medical officer during the continuance of the treatment ; (b) to confer with the tuberculosis officer at such times and in such circumstances as may be arranged between them in regard to patients suffering from tuberculosis."

The model form referred to in the Regulations is a simplification of the form previously supplied under the Domiciliary Order of 1916, and, as advocated in my previous reports, calls for certain essential information, which is briefly as follows : (a) Condition of patient on date of last physical examination ; (b) General line of treatment followed by the medical practitioner since the last report ; (c) Information as to whether the conditions in which the patient is living are satisfactory ; (d) whether the patient is carrying out instructions satisfactorily ; and (e) whether, in the opinion of the practitioner, it is desirable that the patient should have residential treatment or attend regularly at the dispensary.

Insurance practitioners are kept supplied with a stock of blank forms for initial reports on new cases notified by them ; and for subsequent quarterly reports, the tuberculosis officers assist by sending to the doctors the required forms with the names, addresses, and reference numbers of the patients thereon. It cannot be said that the system in practice works very well. In the first place, the initial report becomes of less and less value, according to the number of cases seen by the tuberculosis officer in consultation before notification. As this is done in 70 per cent. of the cases in Lancashire, the initial report would be better done away with altogether as a routine matter.

Opinions vary as to the value of the quarterly reports. So long as cases with active disease are seen by the tuberculosis officer once in three months, such first-hand information obtained by a personal examination is better than any report from a doctor.

RESULTS OF HOME TREATMENT COMBINED WITH DISPENSARY TREATMENT OR SUPERVISION.

(a) *Patients with Pulmonary Tuberculosis.*

Reconstructed tables, forming Appendix VII. of this report have been prepared, showing the condition at the end of 1921 of 5,925 adult patients and 476 children suffering from pulmonary tuberculosis who applied for treatment during the years 1914-1920, and who received home treatment combined with dispensary supervision or treatment. The patients never completed a course of sanatorium treatment, but a proportion have received institutional treatment at pulmonary, observation or general hospitals. The tables have been made as concise as possible, at the same time showing the results of treatment according to stage of disease, sputum, age, sex, and year of application.

The following brief particulars are extracted from the detailed tables mentioned, and show the results of this form of treatment, at the same

time bearing out the experience in institutional cases that patients with a positive sputum are much less likely to effect recovery than those with a negative or no sputum :—

TABLE 27.—*Results of HOME TREATMENT and Dispensary Supervision or Treatment.*

Stage of Disease.	Year of Application for Treatment.	Sputum.†	Net* No. of Adults who received Home Treatment.	Position at end of 1921.		
				Fit for Work. %	Unfit for Work. %	Died from Tuberculosis. %
I. and I.S. ("Early" cases).	1914 ...	Positive ...	24	20.8	8.3	70.8
		Neg. or None	41	70.7	2.4	26.8
	1915 ...	Positive ...	37	21.6	8.1	70.2
		Neg. or None	79	63.3	6.3	30.3
	1916 ...	Positive ...	42	28.5	4.7	66.6
		Neg. or None	92	71.7	7.6	20.6
	1917 ...	Positive ...	48	41.7	6.2	52.0
		Neg. or None	114	78.0	5.2	16.6
	1918 ...	Positive ...	65	44.6	3.0	52.3
		Neg. or None	128	71.9	7.0	21.0
	1919 ...	Positive ...	43	39.5	11.6	48.8
		Neg. or None	147	72.1	9.5	18.3
	1920 ...	Positive ...	57	24.5	17.5	58.0
		Neg. or None	115	67.8	16.5	15.6
II. and II.S. ("Intermediate" cases).	1914 ...	Positive ...	60	13.3	1.6	85.0
		Neg. or None	45	26.6	...	73.3
	1915 ...	Positive ...	146	8.2	0.6	91.1
		Neg. or None	74	39.2	4.0	56.7
	1916 ...	Positive ...	157	8.2	3.1	88.5
		Neg. or None	68	26.4	7.3	66.2
	1917 ...	Positive ...	177	8.4	7.9	83.7
		Neg. or None	58	38.0	5.1	56.9
	1918 ...	Positive ...	202	7.9	3.9	88.1
		Neg. or None	100	42.0	10.0	48.0
	1919 ...	Positive ...	166	9.6	8.4	81.9
		Neg. or None	100	49.0	8.0	43.0
	1920 ...	Positive ...	211	14.2	18.4	67.3
		Neg. or None	96	40.6	22.9	36.4

* Net number arrived at after deducting patients left County, untraced, ceased treatment for other than medical reasons, died from other than tuberculosis, and diagnosis not confirmed.

† Where sputum is shown as positive, tubercle bacilli have been found at some time during treatment.

(b) Patients with Non-Pulmonary Tuberculosis.

The following new table shows the results, as at the end of 1921, of home treatment combined with dispensary treatment or supervision in respect of 825 patients suffering from non-pulmonary tuberculosis :—

TABLE 28.

Year of Application for Treatment.	Adults (15 and over) or Children.	Net.* No. of Patients who received Treatment.	Position at end of 1921.					
			Fit for Work or School.		Unfit for Work or School.		Died from Tuberculosis.	
			No.	%	No.	%	No.	%
1914	Adults ...	33	21	63·6	...	...	12	36·4
	Children ...	...	...	...	...	...	...	...
1915	Adults ...	46	31	67·3	2	4·3	13	28·3
	Children ...	8	6	75·0	1	12·5	1	12·5
1916	Adults ...	56	42	75·0	2	3·6	12	21·4
	Children ...	12	10	83·3	1	8·3	1	8·3
1917	Adults ...	85	62	72·9	5	5·9	18	21·2
	Children ...	24	20	83·3	1	4·2	3	12·5
1918	Adults ...	92	65	70·6	11	11·9	16	17·4
	Children ...	43	39	90·7	2	4·6	2	4·6
1919	Adults ...	120	84	70·0	22	18·3	14	11·7
	Children ...	56	40	71·4	8	14·3	8	14·3
1920	Adults ...	125	84	67·2	28	22·4	13	10·4
	Children ...	125	94	75·2	23	18·4	8	6·4

* *Net* number arrived at after deducting patients left County, untraced, ceased treatment for other than medical reasons, died from other than tuberculosis, and diagnosis not confirmed.

DISCHARGED SAILORS AND SOLDIERS SUFFERING FROM TUBERCULOSIS.

All sailors and soldiers whose homes are in the Administrative County and who have been discharged from the Navy and Army suffering from tuberculosis, or who, subsequent to discharge or demobilisation, develop tuberculosis, are given preferential treatment as regards admission to sanatoria or hospitals.

The cost of institutional treatment granted to tuberculous pensioners is borne by the Government, and the travelling expenses of patients are met out of the funds of the Ministry of Pensions. Detailed claims for refund are accordingly submitted from time to time.

TUBERCULOSIS OFFICERS AS MEDICAL REFEREES.

The consultant tuberculosis officers (or the assistants in their stead) act as medical referees of the Ministry of Pensions in regard to ex-Service men suffering from tuberculosis, and in that capacity a very large number of men have been referred to them by the Local War Pensions Committees and the Area Deputy Commissioners of Medical Services for examination and report.

Under the Regulations of the Ministry of Pensions, tuberculosis officers are requested to submit certificates and reports required under the following headings :—

- (1) Notifications regarding the commencement of treatment and intimating whether or not, in the interests of the treatment, the men should abstain from remunerative occupation ;
- (2) Certification of medical fitness or otherwise for vocational training in the case of a tuberculous man who has applied to be provided with vocational training otherwise than in a residential institution approved by the Minister of Health ;
- (3) In the case of a man who, after discharge from the service, suffers from tuberculosis and claims that tuberculosis is either attributable to or aggravated by War Service, a report indicating whether the disease is, in the opinion of the tuberculosis officer, attributable to or aggravated by War Service ; and, if so, the degree of the man's disablement arising therefrom ;
- (4) In the case of a man who claims that there has been an increase in the degree of his disablement since his last examination by a medical board, a report indicating whether, in the opinion of the tuberculosis officer, there has been any increase ; and, if so, of what degree ;
- (5) A certificate regarding the physical condition of a man claiming an alternative pension based on his pre-war earnings, in lieu of a disablement pension, based on the degree of his present disablement ;

- (6) A certificate as to whether dental treatment is necessary for the efficacy of other treatment to be provided for tuberculosis ;
- (7) Reports with regard to a man on special rates of pension at specified periods after discharge from Sanatoria, Hospitals, or Training Colonies.

The consultant tuberculosis officers may also serve on Ministry of Pensions Medical Boards to assist in the periodical re-survey of pensions granted to certain discharged disabled men.

The tuberculosis officers' recommendations for treatment are submitted to the County Council, who became solely responsible for arranging treatment of tuberculous ex-Service men from 1st May, 1921.

SPECIAL NOURISHMENT TO EX-SERVICE MEN.

The cost of special nourishment for tuberculous pensioners is borne by the Ministry of Pensions ; during 1921, 481 recommendations were made by the county tuberculosis officers in respect of ex-Service men.

NUMBER OF EX-SERVICE MEN TREATED.

During 1921, there were 375 new applications for treatment from discharged sailors and soldiers, and these were classified in the following stages on commencing treatment under the County Council. The figures for the cases prior to 1921 are also given :—

TABLE 29.

Stage.	1914-1920.	1921.	Total.
Pulmonary—			
Stage I.	1,010	171	1,181
Stage II.	583	110	693
Stage III.	222	53	275
Non-Pulmonary	136	41	177
TOTAL	1,951	375	2,326

In addition to the above total of 2,326, there were 37 men who did not receive any form of treatment, so that altogether 2,363 applications from tuberculous ex-Service men have been dealt with from the commencement of the war in 1914 up to the end of 1921. After deducting deaths, removals, and cases where the diagnosis was not confirmed, there were 1,425 men living and undergoing some form of treatment on the 31st December, 1921, and in 1,102 of these cases the Ministry of Pensions had held that the disease was attributable to or aggravated by war service.

The large majority of the men have received a period (in many cases two, three, or more periods) of institutional treatment, and in every instance priority of admission has been given.

TREATMENT AND OCCUPATIONAL TRAINING

The need of accommodation for the treatment and training of tuberculous ex-Service men was suggested by the Inter-Departmental Committee on Tuberculosis (Sanatoria for Soldiers) in 1919, and since then several new training colonies or sections have been established in the country.

The County Council have made arrangements to send patients to the East Lancashire Training Colony, Barrowmore Hall, Cheshire, and to the Delamere Training Colony, Frodsham, the trades or occupations taught being: pig-keeping, boot-repairing, poultry-farming, market gardening, carpentry, joinery, gardening, and watch and clock repairing.

These institutions have been able to take without delay all the tuberculous pensioners who have been recommended by the tuberculosis officers as suitable cases for training.

The following table gives particulars of the patients so far granted a course of treatment combined with training:—

TABLE 30.—*Treatment and Occupational Training.*

Stage of Disease on Admission.	Total No. admitted: (3rd Aug., 1920, to 31st Dec., 1921).	Total Number Discharged	Average duration of stay at Colony* (months).	PATIENTS DISCHARGED.			Still undergoing Training, 31st Dec., 1921.
				Course of Training completed.	Training terminated for other than medical reasons.	Transfer to Sanatoria or Hospital.	
Stage I.	15	7	3.25	3	3	1	8
Stage II.	1	...	...	...	...	...	1
Total	16	7	3.25	3	3	1	9

* Average duration relates to patients who completed course.

Thus, of seven patients who left training colonies, only three were regular discharges on completion of the course. The number of men who have received a course is as yet comparatively small, but, notwithstanding, so large a proportion of irregular discharges cannot be considered satisfactory. The three men who left prematurely went at their own request, and against medical advice.

The Ministry of Health in a circular, No. 307, draw attention to the following points in reference to the selection of cases for treatment and training: (a) No patient should be recommended for a course of vocational training unless he has previously undergone a course of sanatorium treatment. The patient should also be capable of doing at least four

hours' work daily without ill-effect. (b) It should be remembered that the great majority of tuberculous patients are damaged lives, and that it will be difficult for patients, even with the aid of war pensions, to make good in competition with healthy workers. It is, therefore, important that only those patients who have a reasonable prospect of securing arrest of the disease should be selected for admission to a course of vocational training. Care should be taken to recommend only those patients who appear to be temperamentally fitted for a course of vocational training, and who are likely to persevere. A thorough study of each patient is requisite before he is recommended for such a course, in order that the risk of sending unsuitable patients may be minimised. (c) In selecting a course of training for any particular patient, great care should be taken to select one adapted to the capacity and circumstances of the patient, and the prospects of the patient being able and likely to follow the occupation subsequently should be duly weighed. As far as possible, patients should be given training in the course they select, but as the number of places available for each course is limited, this may not be practicable in all cases, and the patient should indicate whether he is willing to receive training in another course, should there be no vacancies for training in the course he prefers.

APPENDIX I.

REPORT ON TUBERCULOUS CATTLE IN RELATION TO
NON-PULMONARY TUBERCULOSIS IN CHILDREN
AND ADULTS.

The County Tuberculosis Committee, at their meeting on 16th November, 1921, briefly considered the subject of non-pulmonary tuberculosis arising from tuberculous cattle, and directed me to submit a report thereon. It will be convenient, perhaps, to deal with this matter under the following headings :—

- I.—The number of cases and deaths from non-pulmonary tuberculosis in the Administrative County of Lancaster.
- II.—The evidence that non-pulmonary tuberculosis can be caused by milk from tuberculous cattle, and in what proportion.
- III.—The extent of active tuberculosis in cattle.
- IV.—The existing legislation dealing with tuberculous cattle and tuberculous milk.
- V.—Summary and conclusions.

I.—NUMBER OF CASES AND DEATHS FROM NON-PULMONARY TUBERCULOSIS IN THE ADMINISTRATIVE COUNTY OF LANCASTER.

The following table gives the number of children and adults suffering from non-pulmonary tuberculosis notified in the Administrative County of Lancaster during the past five years, and also shows the deaths recorded from this cause :—

YEAR.	CASE NOTIFICATIONS.			DEATHS.		
	Children aged 0 to 15 years.	Adults aged 15 years and over.	TOTAL.	Children aged 0 to 15 years.	Adults aged 15 years and over.	TOTAL.
1916 ...	693	487	1180	297	174	471
1917 ...	632	430	1062	276	190	466
1918 ...	518	367	885	253	182	435
1919 ...	483	364	847	209	149	358
1920 ...	550	418	968	228	168	396
Total for 5 years ...	2876	2066	4942	1263	863	2126

It will be seen from the foregoing table that the majority of cases and deaths occurred in children under the age of 15, the percentages being as follows :—

Cases ... 58·2 per cent. under 15 years of age.

Deaths ... 59·4 per cent. under 15 years of age.

The following table gives the number of cases of tubercular glands, tubercular joints (knee, hip, &c.), and bones notified in the Administrative County of Lancaster during the five years ended 31st December, 1920 :—

YEAR.	NOTIFICATION OF CASES (all ages).			Percentage to Total Notifications of Non-Pulmonary Tuberculosis.
	Tubercular Glands.	Tubercular bones&joints	TOTAL.	
1916	496	289	785	66·52 per cent.
1917	476	243	719	67·70 „
1918	387	202	589	66·55 „
1919	381	216	597	70·48 „
1920	383	239	622	64·25 „
Total for 5 years...	2123	1189	3312	67·01 „

On the 31st December, 1920, there were 1,507 children under 16 years of age (the number under 15 not being available) known to be suffering from non-pulmonary tuberculosis under the supervision of the County Tuberculosis staff.

Of these 1,507 children, 1,009 were suffering from tubercular glands, bones and joints.

II.—THE EVIDENCE AND PROOF THAT NON-PULMONARY TUBERCULOSIS CAN BE CAUSED BY MILK FROM TUBERCULOUS CATTLE, AND IN WHAT PROPORTION.

It has now been conclusively proved (see reference ⁽¹⁾ and ⁽²⁾) that several kinds of non-pulmonary tuberculosis in children (*e.g.*, tuberculosis of the glands, of the bones and joints) can arise from drinking milk from cows affected with tuberculosis of the udder.

Of the total cases of children under 15 years of age suffering from bone, joint, and gland tuberculosis, the number due to the bovine and human bacillus respectively varies. I have summarised below some of the experimental evidence :—

Dr. John Fraser ⁽³⁾ investigated the type of bacillus in 70 cases of tuberculosis of the bones and joints in children under twelve, and found the bovine bacillus alone was present in 41, or 58·5 per cent., in 26 the human bacillus, and in 3 a mixed infection of both types. He also ascertained that in children under three there

were 23 cases of bovine infection to five of human, equal to 82 per cent. ; of 25 cases brought up on human milk, in only six, or 24 per cent., was bovine bacillus found, whereas of 41 nourished on cow's milk, in 37, or 90 per cent., a bovine bacillus was traced.

Dr. Philip Mitchell ⁽⁴⁾ investigated 72 consecutive cases of tuberculosis of the cervical glands, and discovered the bovine bacillus in 65, or 90 per cent.

Dr. Inman ⁽⁵⁾ reported that cultures from tuberculous neck glands in children during the first five years of life showed bovine infection in 85·7 per cent. of cases examined, and between the ages of five and ten years in 65 per cent. of cases.

Royal Commission on Tuberculosis ⁽⁶⁾: "Of young children dying from primary adominal tuberculosis, the fatal lesions could in nearly one-half of the cases be referred to the bovine bacillus and to that type alone. In children, too, and often also in adolescents, suffering from cervical gland tuberculosis, a large proportion of the cases examined by us could be referred to the bovine tubercle bacillus. . . . A considerable amount of the tuberculosis of childhood is to be ascribed to infection with bacilli of bovine type transmitted to children in meals consisting largely of the milk of the cow. . . . We are convinced that measures for securing the prevention of ingestion of living bovine tubercle bacilli with milk would greatly reduce the number of cases of abdominal and cervical gland tuberculosis in children, and that such measures should include the exclusion from the food supply of the milk of the recognisably tuberculous cow, irrespective of the site of the disease."

III.—THE EXTENT OF ACTIVE TUBERCULOSIS IN CATTLE.

Several of the larger cities and towns (Manchester, Liverpool, Sheffield, Birmingham, &c.) possess special powers under local Acts of Parliament to deal with infected cattle and milk, and the following results of the bacteriological examination of milk undertaken by them have been extracted from their Annual Reports:—

Manchester.—During the five years 1915-19, the average "Number of Farmers' Milk tested" was 256, and the percentage of farmers sending tuberculous milk proved to be 9·4. For 1920, the figures were 194 and 14·9 respectively (samples taken from "selected" areas only).

Liverpool.—During the five years 1915-19, the average number of samples of milk taken from "town" and "country" farms was 558; of these, 31, or 5·5 per cent., were tuberculous. For 1920, the figures were 1,022 samples, 73, or 7·1 per cent., tuberculous.

It is estimated ⁽⁷⁾ that about 2 per cent. have tuberculosis of the udder, which, from the point of view of milk infection, is the most serious form of the disease in cows. ⁽⁸⁾ Further, Dr. MacFadden ⁽⁹⁾ estimates that 2 per cent. of cows are in such an advanced state of the disease as would bring them within the provisions for slaughtering made under the Tuberculosis Order, 1914.

An estimate has been very kindly supplied to me that there were in the geographical County of Lancashire in 1920, 106,602 cows in milk, 13,374 cows in calf, and 8,864 heifers in calf (total 128,840).

I have not been able to obtain any exact figure as to the numbers for the County Boroughs and Administrative County respectively.

IV.—THE EXISTING LEGISLATION DEALING WITH TUBERCULOUS CATTLE AND TUBERCULOUS MILK.

There are in operation limited statutory powers for dealing with tuberculous milk and tuberculous cattle. They are contained in (1) The Dairies, Cowsheds and Milkshops Orders of 1885 and 1899. These Orders were made under the Contagious Diseases (Animals) Act, 1878. (2) Public Health Act, 1875 (Section 116). (3) Local Acts. In addition, certain other statutory powers exist which have either been *suspended or not put into operation*. They are contained in (4) The Tuberculosis Order of 1914, issued under the Diseases of Animals Acts, which was suspended from operation on August 6th, 1914; (5) The Milk and Dairies (Consolidation) Act, 1915, which has not yet been put into operation.

(1) *Dairies, Cowsheds and Milkshops Orders, 1885 and 1899.*

Under the Dairies, Cowsheds and Milkshops Order, 1885, an Urban or Rural Sanitary Authority may from time to time make regulations :—

- (a) For the inspection of cattle in dairies ;
- (b) For prescribing and regulating the lighting, ventilation, cleansing, &c., of dairies and cowsheds in the occupation of persons following the trade of cowkeeper or dairyman ;
- (c) For taking precautions against infection and contamination.

Article 15 of this Order provides that if at any time cattle plague, pleuro-pneumonia, and foot and mouth disease exists among the cattle in a dairy or cowshed or other building or place, the milk of a diseased animal therein—

- (a) Shall not be mixed with other milk ;
- (b) Shall not be sold or used for human food ; and
- (c) Shall not be sold or used for food of swine, or other animals, unless and until it has been boiled.

Article 2 of the Dairies, Cowsheds and Milkshops Order, 1899, extends Article 15 of the Dairies, Cowsheds and Milkshops Order, 1885, so as to include in the case of a cow such disease of the udder as shall be certified by a veterinary surgeon to be tubercular.

The powers given under the Dairies, Cowsheds and Milkshops Orders have proved mainly ineffective with regard to tuberculosis. It is optional for Local Sanitary Authorities to make regulations or enforce the requirements. In any case no compensation at present is payable for any diseased cow slaughtered.

(2) *Public Health Act, 1875.*

Under Section 116 of this Act any Medical Officer of Health or Inspector of Nuisances of an Urban or Rural District may inspect and examine any animal exposed for sale, and seize it if diseased or unsound. Diseased or unwholesome milk may also be seized under this Section.

(3) *Local Acts.*

Several of the larger Boroughs have obtained powers under local Acts of Parliament for dealing with tubercular cattle and milk.

(4) *The Tuberculosis Order of 1914.*

This, *withdrawn by order of the Ministry of Agriculture and Fisheries*, requires every person having in his possession or charge any cow or bovine animal suffering or suspected to be suffering from tuberculosis to notify the fact to the Police or Local Authority. If the Local Authority's veterinary inspector reports that the animal is tubercular, then provision is made for its slaughter, with payment of compensation to the owner.

The amount of compensation payable is : (i.) if the animal was suffering from advanced tuberculosis, one-fourth of the market value, or 30/., whichever is greater after deducting from such sums one-half the cost of valuation and examination ; (ii.) if suffering from tuberculosis, but not advanced, three-fourths of the market value, or 30/., whichever is greater after deducting one-half the cost of valuation and examination ; (iii.) if the examination by a veterinary inspector does not show that the animal was suffering from tuberculosis, then the Local Authority shall pay the market value, plus 20/-. The market value of the animal before slaughter is to be determined by agreement between Local Authority and owner, or by a valuer.

N.B.—The “ Local Authority ” is the Council of a Borough having a population of 10,000 or more in 1881, and, for the remainder of the Administrative County, the County Council.

(5) *The Milk and Dairies (Consolidation) Act of 1915.*

This measure, *if in operation, which it is not*, would empower the Medical Officer of Health of a County to stop a milk supply if he is of opinion that tuberculosis is or is likely to be caused by it.

V.—SUMMARY AND CONCLUSIONS.

1.—There are at the present time over 1,500 children in the Administrative County of Lancaster suffering from non-pulmonary tuberculosis.

2.—It is now definitely proved that milk from tuberculous cattle (tuberculosis of the udder) is a cause of tuberculosis in human beings.

3.—The tuberculosis which arises is the non-pulmonary type. It occurs most frequently in children, who, when attacked in the bones and joints, become crippled. Some, after expensive treatment, may be cured; some remain cripples for life; others, after a prolonged illness, die. In the Administrative County at the present time there are 1,009 children suffering from gland, bone, and joint tuberculosis, and if we assume about the same amount of tuberculosis in cattle in Lancashire as elsewhere, the disease has been caused in half, or rather more than half, of these cases by milk from tuberculous cattle.

4.—At the present time the County Council is spending, approximately, £7,000 per annum on the institutional treatment of a comparatively few cases of non-pulmonary tuberculosis in children. To treat all the cases properly, about a *quarter of a million* will be required for the capital expenditure on buildings alone. Would it not be more economical, as well as more reasonable and humane, for the County Council to deal with one important source of infection—diseased cattle—rather than attempt to cure the children and adults after they have contracted the disease?

G. LISSANT COX,

Central Tuberculosis Officer.

County Offices, Preston,

14th December, 1921.

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- Reference—(1) Hyslop Thomson, "Tuberculosis and Public Health," page 39.
 Do. (2) A. Stanley Griffith, "British Journal of Tuberculosis," Volume XI., No. 4.
 Do. (3) Hyslop Thomson, "Tuberculosis and Public Health," page 41.
 Do. (4) Hyslop Thomson, "Tuberculosis and Public Health," page 42.
 Do. (5) H. M. Cargin, "British Medical Journal," November, 1921.
 Do. (6) Final Report, Part I., pages 39, 40.
 Do. (7) Hyslop Thomson, "Tuberculosis and the Public Health," page 39.
 Do. (8) Delépine, Proc. Roy. Soc. Med. Vol. 3, No. 7, May, 1910, Epid. Sec., p. 254.
 Do. (9) A. W. J. McFadden in "Transactions of National Association for Prevention of Tuberculosis," page 166.

APPENDIX II.

NOTIFICATIONS OF TUBERCULOSIS.

Since February 1st, 1913, tuberculosis—both “pulmonary” and “other forms”—has been compulsorily notifiable under the Public Health (Tuberculosis) Regulations, 1912.

The tabular statement below contrasts the number of cases notified during the year 1921 with the previous years.

Notifications during years 1913-1921.

		Pulmonary.	Non-Pulmonary.	Total.
1913 (48 weeks)	...	2,700	1,592	4,292
1914	...	2,820	1,140	3,960
1915	...	2,872	1,128	4,000
1916	...	2,689	1,180	3,869
1917	...	2,375	1,062	3,437
1918	...	2,534	885	3,419
1919 (53 weeks)	...	2,105	847	2,952
1920	...	2,084	968	3,052
1921	...	2,044	899	2,943

Tables B and C, here inserted, analyse the notifications received by the County public health department, both as regards parts of the body affected and in age groups.

Table D, also inserted, compares the male and female notifications.

Deaths of 393 persons “notified as suffering from Pulmonary Tuberculosis” in 1921 which took place within three months of the date of notification (referred to on page 9).

Period between date of case notification and death.	Certified cause of Death.			Total.
	Pulmonary.		Non- Pulmonary	
	Primary.	Secondary.		
Under 1 week	59	8	2	69
1 to 2 weeks	41	7	4	52
2 to 3 weeks	32	3	1	36
3 to 4 weeks	30	2	2	34
1 to 2 months	104	2	4	110
2 to 3 months	84	4	4	92
Total under 3 months	350	26	17	393
	376			

N.B.—The Tables mentioned in this Appendix have been prepared in the County public health department.

TABLES B, C AND D,
ANALYSING
NOTIFICATIONS UNDER PUBLIC HEALTH
(TUBERCULOSIS)
REGULATIONS, 1912

TABLE B.

SUMMARY OF NOTIFICATIONS OF PULMONARY AND OTHER FORMS OF TUBERCULOSIS DURING THE FIFTY-TWO WEEKS ENDED 31ST DECEMBER, 1921.

(Extracted from Weekly Returns of District Medical Officers of Health.)

		NOTIFICATIONS ON FORMS A AND B—Excluding Duplicates.																								NOTIFICATIONS. FORM B ONLY. (By School Medical Inspectors.)								Number of Cases Notified on Form C. (Admissions.)		Number of Cases notified on Form D (Dis- charges from Institu- tions).					
		PULMONARY.												NON-PULMONARY.												Total Pul- monary and Non- Pul- monary.	PRIMARY NOTIFICATIONS. (i.e., excluding duplicates.)				Total Notifica- tions (i.e., including cases previously notified by other Doctors.)										
		Years. {	0 to 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.	65 and up- wds	TOTAL.	TOTAL M. & F.	0 to 1.	1 to 5.	5 to 10.	10 to 15.	15 to 20.	20 to 25.	25 to 35.	35 to 45.	45 to 55.	55 to 65.		65 and up- wds	TOTAL.	TOTAL M. and F.	Under 5 years.		5 to 10 years.	10 to 15 years.	TOTAL.							
P.	N.P.	P.	N.P.	P.	N.P.	P.	N.P.																					Poor Law Institu- tions.	Sana- toria.												
Thirteen weeks ended 2nd April, 1921 .. {	M. F.	1 ..	5 5	12 17	18 25	25 37	31 41	61 72	58 39	46 20	25 11	5 5	287 272	} 559	3 3	10 18	26 28	24 21	15 17	9 14	10 10	6 5	4 8	3 2	1 1	111 127	} 238	797	..	..	2 ..	4 5	..	2 1	2 2	6 6	} 16	18	3	144	130
Thirteen weeks ended 2nd July, 1921 .. {	M. F.		3 3	10 15	12 21	30 44	45 45	55 68	60 49	48 26	21 12	5 6	289 289	} 578	3 5	23 17	41 27	27 25	20 25	6 11	12 13	5 2	2 5	1 1	1 2	141 133	} 274	852	..	..	1 ..	5 1	2 ..	2 2	3 ..	7 3	} 13	14	4	166	126
Thirteen weeks ended 1st October, 1921 .. {	M. F.		3 2	13 11	5 19	17 25	33 36	59 68	54 31	32 19	17 16	5 5	238 232	} 470	4 5	14 15	27 13	17 17	14 10	3 7	8 15	5 3	5 1	1 6	1 3	99 95	} 194	664	..	..	1 1	2 1	..	1 3	3 1	} 8	9	3	172	198	
Thirteen weeks ended 31st December, 1921 {	M. F.		6 2	8 10	12 12	22 26	24 38	47 47	53 37	36 17	21 11	4 4	233 204	} 437	2 2	13 12	16 21	16 18	4 13	14 9	11 15	7 5	6 7	1 ..	1 ..	91 102	} 193	630	..	..	1 1	..	3 4	1 4	4 5	1 5	} 15	15	11	172	142
Total {	M. F.	1 ..	17 12	43 53	47 77	94 132	133 160	222 255	225 156	162 82	84 50	19 20	1047 997	} 2044	12 15	60 62	110 89	84 81	53 65	32 41	41 53	23 15	17 21	6 9	4 6	442 457	} 899	2943	..	..	5 2	11 8	5 8	6 7	10 10	17 15	} 52	56	21	654	596

ADMINISTRATIVE COUNTY OF LANCASTER.

TABLE C.

PUBLIC HEALTH (TUBERCULOSIS) REGULATIONS, 1912.

ANALYSIS OF THE NOTIFICATIONS ON FORMS A AND B (EXCLUDING DUPLICATES) RECEIVED DURING THE FIFTY-TWO WEEKS
ENDED 31st DECEMBER, 1921.

(Extracted from Weekly Returns of District Medical Officers of Health.)

AGE—YEARS :—		..	0—1			1—5			5—10			10—15			15—20			20—25			25—35			35—45			45—55			55—65			65 & upwds.			TOTALS.		
SEX.	Col.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	M.	F.	Both Sexes.	Col.			
PULMONARY—																																						
Lungs only ..	1	1	..	1	17	12	29	43	53	96	47	77	124	93	131	224	132	157	289	221	254	475	215	155	370	159	80	239	82	49	131	19	20	39	1029	988	2017	1
Lungs and Larynx ..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	1	..	1	1	5	..	5	3	..	3	1	..	..	..	9	3	12	2		
Laryngitis ..	3	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	1	2	3	1	..	1	5	1	6	..	2	2	1	1	2	..	..	9	6	15	3	
PULMONARY TOTAL ..	4	1	..	1	17	12	29	43	53	96	47	77	124	94	132	226	133	160	293	222	255	477	225	156	381	162	82	244	84	50	134	19	20	39	1047	997	2044	4
Cases—Pulmonary and Non-Pulmonary combined ..																																						
		..	..	..	1	3	4	3	1	4	5	2	7	..	3	3	3	3	6	3	1	4	3	1	4	2	2	4	1	1	2	..	..	..	21	17	38	
NON-PULMONARY—																																						
ALIMEN- TARY	Enteritis (Primary) ..	5	1	2	3	1	3	4	3	1	4	..	..	..	..	1	1	1	1	..	1	2	3	5	1	..	1	1	1	..	..	..	10	12	22	5		
	Peritonitis (Abdominal Tuberculosis) ..	6	4	3	7	13	4	17	13	13	26	9	12	21	7	6	13	6	6	12	2	8	10	1	1	2	..	2	2	1	..	1	..	56	55	111	6	
GLANDS																																						
Tabes .. (Mesenteric Glands)	7	..	..	..	1	3	4	4	1	5	1	1	2	..	..	..	1	1	2	..	..	..	1	..	1	1	..	1	..	..	..	..	9	6	15	7		
Axillary ..	8	..	..	..	..	..	..	3	2	5	4	3	7	2	2	4	..	3	3	1	..	1	..	1	1	..	..	..	..	..	1	1	10	12	22	8		
Cervical ..	9	1	1	2	14	16	30	42	37	79	30	32	62	13	35	48	8	14	22	8	14	22	3	1	4	..	4	4	1	1	2	..	..	120	155	275	9	
Inguinal ..	10	..	..	..	..	..	..	..	1	1	..	1	2	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	1	1	2	10		
Mediastinal ..	11	..	..	..	..	..	..	..	..	..	1	1	2	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	2	1	3	11		
Not Classified .. (Two or more Groups)	12	..	..	..	1	..	1	3	1	4	2	..	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	6	1	7	12			
GENITO- URINARY																																						
Bladder ..	13	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	2	..	2	13			
Fallopian Tube ..	14	..	..	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	1	..	14			
Kidney ..	15	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	..	15				
Prostate ..	16	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	16				
Suprarenal ..	17	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	17				
Testicle and Epididymis ..	18	..	..	..	..	..	..	1	..	1	..	..	..	..	..	..	2	..	2	5	..	5	2	..	2	3	..	3	..	..	13	..	13	18				
Not Classified .. (Two or more)	19	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..	1	..	..	..	1	1	..	..	1	1	2	19			
JOINTS AND BONES																																						
Head .. (Including Middle Ear)	20	..	..	..	..	..	..	..	..	..	..	1	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	1	20			
Trunk—																																						
Ribs and Sternum ..	21	..	..	..	1	..	1	..	..	..	1	1	2	..	1	1	1	..	1	..	..	1	..	1	3	..	3	3	..	..	..	1	1	2	7	2	9	21
Spine ..	22	..	..	..	8	5	13	6	3	9	5	6	11	9	2	11	1	2	3	8	6	14	1	3	4	..	3	3	..	..	..	39	31	70	22			
Arm—																																						
Shoulder ..	23	..	..	..	..	..	..	..	..	..	..	..	..	1	1	2	1	..	1	..	..	..	..	..	..	1	1	..	..	..	2	2	4	23				
Scapula ..	24	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..																

TABLE D.

NOTIFICATIONS.

The following table compares the male and female cases in the Administrative County during the past eight years at certain age groups :—

				Cases Male or Fe- male	0 to 1	1 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 35	35 to 45	45 to 55	55 to 65	65 and up- wds.	Total.	Total M. & F.
PULMONARY TUBERCULOSIS :																	
1913	...	...	M	1	24	97	70	129	131	311	292	228	114	29		1426	2700
(11 months)			F	6	28	100	104	158	188	296	201	103	65	25		1274	
1914	...	...	M	6	40	80	83	112	172	329	315	240	107	23		1507	2820
			F	3	32	115	107	140	181	336	225	107	47	20		1313	
1915	...	...	M	5	47	97	79	127	138	305	303	235	117	34		1487	2872
			F	5	27	96	111	152	191	383	239	100	60	21		1385	
1916	...	...	M	1	31	71	77	121	157	331	296	190	96	36		1407	2689
			F	2	24	81	96	165	186	345	220	98	52	13		1282	
1917	...	...	M	4	20	77	62	113	104	262	268	190	90	30		1220	2375
			F	2	22	90	100	129	155	296	185	107	50	19		1155	
1918	...	...	M	3	35	55	59	140	108	300	317	232	98	28		1375	2534
			F	1	24	69	74	139	166	297	207	117	52	13		1159	
1919	...	...	M	2	22	53	55	94	107	238	212	165	91	17		1056	2105
			F	5	14	54	80	126	161	261	184	99	41	24		1049	
1920	...	...	M	2	24	56	63	94	120	281	249	160	90	14		1153	2084
			F	2	20	53	71	115	122	264	147	84	36	17		931	
1921	...	...	M	1	17	43	47	94	133	222	225	162	84	19		1047	2044
			F	-	12	53	77	132	160	255	156	82	50	20		997	
Non-Pulmonary TUBERCULOSIS :—																	
1913	...	...	M	29	128	177	137	98	58	71	48	27	18	3		794	1592
(11 months)			F	28	118	134	132	118	86	80	47	29	19	7		798	
1914	...	...	M	43	111	131	95	77	36	47	23	20	14	3		600	1140
			F	37	88	98	89	77	41	58	27	12	6	4		540	
1915	...	...	M	39	109	113	93	61	46	50	29	14	5	3		562	1128
			F	26	88	107	88	84	53	61	33	15	7	4		566	
1916	...	...	M	20	127	135	99	65	42	47	34	12	13	5		599	1180
			F	8	68	122	114	85	46	65	41	19	11	2		581	
1917	...	...	M	21	116	109	105	61	23	42	30	8	9	1		525	1062
			F	7	79	97	98	89	59	49	25	23	6	5		537	
1918	...	...	M	14	75	103	65	60	19	29	16	14	7	2		404	885
			F	10	75	84	92	80	46	46	29	9	6	4		481	
1919	...	...	M	13	50	97	80	53	26	31	22	19	12	4		407	847
			F	10	59	98	76	61	43	41	29	11	7	5		440	
1920	...	...	M	31	62	107	108	68	26	35	23	16	11	5		492	968
			F	12	66	86	78	62	46	52	34	23	16	1		476	
1921	...	...	M	12	60	110	84	53	32	41	23	17	6	4		442	899
			F	15	62	89	81	65	41	53	15	21	9	6		457	

APPENDIX III.

TABLE E.

IMMEDIATE RESULTS OF SANATORIUM TREATMENT
OF 6,099 ADULT PATIENTS.

APPENDIX III.

CONDITIONS ON DISCHARGE OF 6,099 ADULT|| PERSONS WHO RECEIVED SANATORIUM TREATMENT.

† Stage of Disease on Admission.	Total No. discharged.	Average duration of treatment in months.	Condition on Discharge.									
			Quiescent.		Improved.		Stationary.		Worse.		*No information	
			No.	% to total.	No.	% to total.	No.	% to total.	No.	% to total.	No.	% to total.
STAGE I.—												
Males ...	1778	3·6	605	34·0	713	40·1	82	4·6	41	2·3	337	18·9
Females ...	1260	3·9	505	40·1	496	39·4	73	5·8	23	1·8	163	12·9
STAGE I.S.—												
Males ...	97	3·2	29	29·9	46	47·4	7	7·2	4	4·1	11	11·3
Females ...	82	4·0	26	31·7	41	50·0	5	6·1	1	1·2	9	10·9
Total ...	3217	...	1165	36·2	1296	40·3	167	5·2	69	2·1	520	16·2
STAGE II.—												
Males ...	1310	3·9	216	16·5	673	51·4	111	8·5	67	5·1	243	18·5
Females ...	865	4·3	158	18·3	431	49·8	77	8·9	62	7·2	137	15·8
STAGE II.S.—												
Males ...	141	3·5	17	12·0	76	53·9	10	7·1	5	3·5	33	23·4
Females ...	97	4·3	15	15·4	47	48·4	16	16·5	12	12·4	7	7·2
Total ...	2413*	...	406	16·8	1227	50·8	214	8·9	146	6·0	420	17·4
STAGE III.—												
Males ...	239	3·8	19	7·9	127	53·1	36	15·1	12	5·0	45	18·8
Females ...	122	4·1	10	8·2	72	59·0	14	11·5	11	9·0	15	12·3
STAGE III.S.—												
Males ...	64	3·4	7	10·9	35	54·7	12	18·7	1	1·6	9	14·1
Females ...	44	3·7	6	13·6	22	50·0	9	20·4	2	4·5	5	11·4
Total ...	469	...	42	8·9	256	54·6	71	15·1	26	5·5	74	15·8

The 6,099 cases in the above Table have been sub-divided in the three following Tables to show the condition according to the patients' sputum—(a) positive, (b) negative, (c) none.

(a) Condition on Discharge of 3,136 Adult Persons with POSITIVE SPUTUM† who received Sanatorium Treatment.

STAGE I.—												
Males ...	715	4·1	145	20·3	355	49·6	55	7·7	30	4·2	130	18·2
Females ...	332	4·4	71	21·4	162	48·8	38	11·4	20	6·0	41	12·3
STAGE I.S.—												
Males ...	37	3·2	6	16·2	20	54·0	4	10·8	4	10·8	3	8·1
Females ...	19	5·9	1	5·3	11	57·9	2	10·5	1	5·3	4	21·0
Total ...	1103	...	223	20·2	548	49·7	99	8·9	55	4·9	178	16·1
STAGE II.—												
Males ...	936	4·1	96	10·2	504	53·8	99	10·6	64	6·8	173	18·5
Females ...	582	4·5	62	10·6	305	52·4	69	11·8	55	9·4	91	15·6
STAGE II.S.—												
Males ...	102	3·7	9	8·8	53	51·9	10	9·8	5	4·9	25	24·5
Females ...	65	4·5	5	7·7	30	46·2	14	21·5	11	16·9	5	7·7
Total ...	1685	...	172	10·2	892	52·9	192	11·4	135	8·0	294	17·4
STAGE III.—												
Males ...	184	3·9	11	5·9	100	54·3	31	16·8	11	5·9	31	16·8
Females ...	86	3·9	6	6·9	47	54·6	11	12·8	11	12·8	11	12·8
STAGE III.S.—												
Males ...	47	3·6	5	10·6	29	61·7	9	19·1	...	...	4	8·5
Females ...	31	3·4	2	6·4	13	41·9	9	29·0	2	6·5	5	16·1
Total ...	348	...	24	6·9	189	54·3	60	17·2	24	6·9	51	14·6

* Includes patients discharged for other than medical reasons.

† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms as suggested by Philip.

‡ The sputum has been positive at some time during treatment. || Adult age—15 years and over.

(b) Condition on Discharge of 2,264 Adult Persons with NEGATIVE SPUTUM who received Sanatorium Treatment.

† Stage of Disease on Admission	Total No. discharged.	Average duration of treatment in months.	Condition on Discharge.									
			Quiescent.		Improved.		Stationary.		Worse.		*No information	
			No.	% to total.	No.	% to total.	No.	% to total.	No.	% to total.	No.	% to total.
STAGE I.—												
Males ...	881	3·3	367	41·6	323	36·7	21	2·4	9	1·0	161	18·3
Females ...	664	3·7	315	47·4	234	35·2	27	4·1	2	0·3	86	12·9
STAGE I.S.—												
Males ...	41	3·0	15	36·6	17	41·4	2	4·9	...	...	7	17·1
Females ...	39	3·6	14	35·9	20	51·3	2	5·1	...	...	3	7·7
Total ...	1625	...	711	43·7	594	36·5	52	3·2	11	0·7	257	15·8
STAGE II.—												
Males ...	306	3·8	93	30·4	151	49·3	12	3·9	3	0·9	47	15·4
Females ...	209	3·9	69	33·0	100	47·8	6	2·9	5	2·4	29	13·9
STAGE II.S.—												
Males ...	26	3·0	7	26·9	15	57·7	...	...	...	...	4	15·4
Females ...	22	4·2	7	31·8	13	59·1	1	4·5	...	...	1	4·5
Total ...	563	...	176	31·3	279	49·5	19	3·4	8	1·4	81	14·4
STAGE III.—												
Males ...	31	3·4	7	22·6	16	51·6	4	12·9	...	...	4	12·9
Females ...	25	4·1	3	12·0	17	68·0	2	8·0	...	...	3	12·0
STAGE III.S.—												
Males ...	11	2·6	2	18·2	4	36·3	2	18·2	1	9·1	2	18·2
Females ...	9	4·3	3	33·3	6	66·6	...	...	...	...	...	...
Total ...	76	...	15	19·7	43	56·6	8	10·5	1	1·3	9	11·8

(c) Condition on Discharge of 585 Adult Persons with NO SPUTUM who received Sanatorium Treatment.

STAGE I.—												
Males ...	152	3·6	91	59·9	32	21·0	6	3·9	2	1·3	21	13·8
Females ...	245	3·7	119	48·6	95	38·8	7	2·9	1	0·4	23	9·3
STAGE I.S.—												
Males ...	15	3·1	8	53·3	7	46·7	...	...	...	...	...	...
Females ...	22	3·4	11	50·0	9	40·9	...	...	...	...	2	9·1
Total ...	434	...	229	52·8	143	32·9	13	2·9	3	0·7	46	10·6
STAGE II.—												
Males ...	51	3·9	26	50·9	16	31·4	...	...	...	...	9	17·6
Females ...	60	3·7	26	43·3	26	43·3	1	1·7	2	3·3	5	8·3
STAGE II.S.—												
Males ...	7	3·0	1	14·3	6	85·7	...	...	...	...	...	...
Females ...	9	2·7	3	33·3	3	33·3	1	11·1	1	11·1	1	11·1
Total ...	127	...	56	44·1	51	40·1	2	1·6	3	2·4	15	11·8
STAGE III.—												
Males ...	11	4·3	1	9·1	7	63·6	...	...	1	9·1	2	18·2
Females ...	9	4·7	1	11·1	7	77·7	1	11·1	...	...	...	...
STAGE III.S.—												
Males ...	2	3·0	...	...	1	50·0	...	...	...	...	1	50·0
Females ...	2	5·2	1	50·0	1	50·0	...	...	...	...	...	...
Total ...	24	...	3	12·5	16	66·6	1	4·2	1	4·2	3	12·5

N.B.—In connection with the above Tables, the following explanatory notes should be mentioned : (1) the adults admitted in the third stage of the disease were chiefly treated in 1912 and 1913, before the County Dispensary organisation had been set up ; (2) in calculating the average duration of treatment, deductions have been made in these tables for persons who left the sanatorium for other than medical reasons (e.g., left without permission and against advice, left for domestic reasons, discharged as a disciplinary measure, left on account of another disease) ; (3) the difference between the numbers in the first table and the total of the tables showing sputum (a) positive, (b) negative, and (c) none is accounted for by the cases where the sputum had not been examined.

APPENDIX IV.

TABLE F.

IMMEDIATE RESULTS OF SANATORIUM TREATMENT
OF 523 CHILDREN.

APPENDIX IV.

CONDITION ON DISCHARGE OF 523 CHILDREN WHO RECEIVED SANATORIUM TREATMENT FOR PULMONARY TUBERCULOSIS.

† Stage of Disease on Admission.	Total No. discharged.	Average duration of treatment in months.	Condition on Discharge.									
			Quiescent.		Improved.		Stationary.		Worse.		*No information	
			No.	% to total.	No.	% to total.	No.	% to total.	No.	% to total.	No.	% to total.
STAGE I.—												
Males ...	201	5.4	103	51.2	54	26.9	9	4.5	1	0.5	34	16.9
Females ...	189	4.3	85	44.9	89	47.1	4	2.1	2	1.1	9	4.8
STAGE I.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	1	2.0	1	100	...	...	...	...	...	...	...	...
Total ...	391	...	189	48.3	143	36.6	13	3.3	3	0.8	43	10.9
STAGE II.—												
Males ...	48	6.7	22	45.8	14	29.2	4	8.3	1	2.1	7	14.6
Females ...	58	4.5	16	27.6	31	53.4	4	6.9	2	3.4	5	8.6
STAGE II.S.—												
Males ...	1	1.8	...	...	...	...	...	...	1	100	...	...
Females ...	1	3.0	1	100	...	...	...	...	...	...	...	...
Total ...	108	...	39	36.1	45	41.7	8	7.4	4	3.7	12	11.1
STAGE III.—												
Males ...	12	5.2	3	25.0	5	41.7	...	...	...	...	4	33.3
Females ...	11	4.4	2	18.2	6	54.5	1	9.1	...	...	2	18.2
STAGE III.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	1	1.5	...	...	...	...	...	...	1	100	...	...
Total ...	24	...	5	20.8	11	45.8	1	4.2	1	4.2	6	25.0

The 523 cases in the above Table have been sub-divided in the three following Tables to show the condition according to the patients' sputum—(a) positive, (b) negative, (c) none.

(a) Condition on Discharge of 24 Children with POSITIVE SPUTUM‡ who received Sanatorium Treatment.

STAGE I.—												
Males ...	2	10.1	...	...	...	...	...	...	1	50.0	1	50.0
Females ...	7	6.1	1	14.3	4	57.1	...	...	...	...	2	28.6
STAGE I.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	9	...	1	11.1	4	44.4	...	...	1	11.1	3	33.3
STAGE II.—												
Males ...	2	...	...	...	...	...	...	...	...	...	2	100
Females ...	9	5.0	...	...	5	55.5	3	33.3	1	11.1	...	...
STAGE II.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	11	...	...	...	5	45.4	3	27.3	1	9.1	2	18.2
STAGE III.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	3	8.0	...	...	1	33.3	...	...	...	...	2	66.7
STAGE III.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	1	1.5	...	...	...	...	...	...	1	100	...	...
Total ...	4	...	...	...	1	25.0	...	...	1	25.0	2	50.0

* Includes patients discharged for other than medical reasons.

† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms as suggested by Philip.

‡ The sputum has been positive at some time during treatment.

(b) Condition on Discharge of 187 Children with NEGATIVE SPUTUM who received Sanatorium Treatment.

† Stage of Disease on Admission	Total No. discharged.	Average duration of treatment in months.	Condition on Discharge.									
			Quiescent.		Improved.		Stationary.		Worse.		*No information	
			No.	%	No.	%	No.	%	No.	%	No.	%
STAGE I.—												
Males ...	63	5.4	30	47.6	21	33.3	2	3.2	...	...	10	15.9
Females ...	67	4.8	35	52.2	27	40.3	1	1.5	1	1.5	3	4.5
STAGE I.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	130	...	65	50.0	48	36.9	3	2.3	1	0.8	13	10.0
STAGE II.—												
Males ...	21	7.3	10	47.6	4	19.0	2	9.5	1	4.8	4	19.0
Females ...	24	5.2	9	37.5	12	50.0	...	...	...	...	3	12.5
STAGE II.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	45	...	19	42.2	16	35.5	2	4.4	1	2.2	7	15.6
STAGE III.—												
Males ...	5	3.3	...	...	2	40.0	...	...	...	...	3	60.0
Females ...	7	3.9	2	28.6	4	57.1	1	14.3	...	...	...	...
STAGE III.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	12	...	2	16.7	6	50.0	1	8.3	...	...	3	25.0

(c) Condition on Discharge of 311 Children with NO SPUTUM who received Sanatorium Treatment.

STAGE I.—												
Males ...	135	5.4	73	54.1	32	23.7	7	5.2	...	...	23	17.0
Females ...	115	3.9	49	42.6	58	50.4	3	2.6	1	0.9	4	3.5
STAGE I.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	1	2.0	1	100	...	...	...	...	...	...	...	...
Total ...	251	...	123	49.0	90	35.8	10	3.9	1	0.4	27	10.7
STAGE II.—												
Males ...	25	6.3	12	48.0	10	40.0	2	8.0	...	...	1	4.0
Females ...	25	3.6	7	28.0	14	56.0	1	4.0	1	4.0	2	8.0
STAGE II.S.—												
Males ...	1	1.8	...	...	...	...	...	...	1	100	...	...
Females ...	1	3.0	1	100	...	...	...	...	...	...	...	...
Total ...	52	...	20	38.5	24	46.1	3	5.8	2	3.8	3	5.8
STAGE III.—												
Males ...	7	5.8	3	42.8	3	42.8	...	...	...	...	1	14.3
Females ...	1	4.0	...	...	1	100	...	...	...	...	...	...
STAGE III.S.—												
Males ...	...	...	...	...	...	...	...	...	...	...	...	...
Females ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	8	...	3	37.5	4	50.0	...	...	...	...	1	12.5

N.B.—(i.) The above table shows all cases, but the three tables following do not include the cases where sputum was not examined.

(ii.) Patients under 15 years of age are classified as children.

APPENDIX V.

INSTITUTIONAL ACCOMMODATION.

The following Tables show the number of beds occupied by County patients (both insured and non-insured) undergoing residential treatment for pulmonary and non-pulmonary tuberculosis as on the 31st December of 1917, 1918, 1919, 1920 and 1921 :—

				End of	Number of Beds occupied—				End of
				1917.	End of	End of	End of	End of	1921.
				1918.	1919.	1920.			
<i>Sanatoria—</i>									
Aitken, near Bury	..	..	55	52	55	53	47		
Benenden, Kent	...	..	10	..	2	..	..		
Blencathra, Cumberland	..	..	..	1	1	1	..		
Bournemouth	...	..	..	1	..	1	..		
Church Army, Fleet, Hauts.	..	2	..	..	..	..	..		
Crossley, Kingswood	..	..	..	1	1	..	3		
Eastby, nr. Skipton (adults)	..	21	..	..	..	..	..		
Elswick, near Kirkham	..	..	47	54	55	54	55		
Grosvenor, Kent	..	..	20	6	..	..	..		
Halifax (Shelf)	..	..	17	14	8	16	18		
High Carley, Ulverstou	..	..	74	68	64	62	75		
Holy Cross, Surrey	..	..	..	..	1	1	1		
King Edward VII., Midhurst	..	..	..	1	..	1	..		
Liverpool, Kingswood	..	..	..	..	1	..	..		
Maghull, near Liverpool	..	..	4	2	1	4	..		
Meathop, Grange-over-Sands	..	38	44	45	51	47			
Mendip Hills	..	..	..	1	..	1	..		
Newcastle	..	..	..	2	..	..	..		
Nordrach-on-Dee	..	..	..	..	1	1	1		
Pinewood, Wokingham	..	..	..	1	..	..	..		
Strinesdale, Oldham	..	..	3	8	3	1	..		
Vale of Clwyd, Ruthin	..	..	..	1	..	..	..		
Wensleydale Aysgarth	..	..	2	4	3	..	1		
Wilkinson, Bolton	..	..	20	19	17	15	20		
				313	280	258	262	264	

Sanatoria and Training Colonies—

Barrowmore Hall, Cheshire	..	..	..	..	4
Delamere, Cheshire	..	..	..	..	5
Preston Hall, Kent	..	..	..	2	..
	<u>..</u>	<u>..</u>	<u>..</u>	<u>2</u>	<u>9</u>

				Number of Beds occupied—				
				End of 1917.	End of 1918.	End of 1919.	End of 1920.	End of 1921.
<i>Hospitals (Pulmonary)—</i>								
Ainsworth, near Bury	..	..	..	34	32	31	34	..
Bull Hill, Darwen	..	..	..	18	20	16	19	18
Burnley	..	..	..	..	..	9	13	10
Chadderton near Oldham	..	..	..	..	..	30	*	29
Eccleston Hall, St. Helens	..	..	..	..	8	11	10	4
Heath Charnock	..	..	..	27	29	26	30	29
Luneside, Lancaster	..	..	..	24	21	22	17	15
Linacre, Bootle	..	..	..	..	3	1	..	3
Marland, Rochdale	..	..	..	..	6	9	14	14
Mount Pleasant, Liverpool	..	..	..	3	1	1	2	..
Peel Hall, Little Hulton	..	..	..	..	..	..	..	44
Pemberton, Wigan	..	..	..	4	6	4	4	4
Westhulme, Oldham	..	..	..	8	11	4	5	7
Wolstenholme Hall, Norden	..	..	..	..	..	..	14	22
				<u>118</u>	<u>137</u>	<u>164</u>	<u>162</u>	<u>199</u>
<i>Observation Hospitals—</i>								
Bury	..	..	..	<u>7</u>	<u>8</u>	<u>8</u>	<u>5</u>	<u>8</u>
<i>Hospitals (Non-Pulmonary)—</i>								
Ancoats Hospital	..	..	..	..	..	..	2	4
Ashton-under-Lyne Infirmary	..	..	..	..	..	1	..	7
Blackburn Royal Infirmary	..	..	..	..	..	2	1	3
Bolton Infirmary	..	..	..	..	..	..	..	4
Bootle Borough Hospital	..	..	..	..	..	..	..	3
Bury Infirmary	..	..	..	..	..	..	..	6
Liverpool David Lewis Northern Hospital	..	..	..	..	..	..	2	..
Liverpool Royal Infirmary	..	..	..	..	..	..	2	..
Liverpool Royal Southern Hospital	..	..	..	..	..	..	2	..
Manchester Royal Infirmary	..	..	..	23	26	35	14	9
Manchester & Salford Skin Hospital	..	..	..	..	..	..	5	4
North Lonsdale Hospital, Barrow	..	..	..	..	..	..	..	1
Preston Royal Infirmary	..	..	..	..	..	2	4	8
Salford Royal Hospital	..	..	..	..	..	..	..	1
Southport Infirmary	..	..	..	..	..	..	..	1
Warrington Infirmary	..	..	..	..	..	3	3	5
Wigau Infirmary	..	..	..	..	..	..	6	4
				<u>23</u>	<u>26</u>	<u>43</u>	<u>41</u>	<u>60</u>
<i>Sanatoria (for Children only)—</i>								
Bowdon, Cheshire	..	..	..	12	8	7	13	4
Eastby, near Skipton	..	..	..	..	34	32	37	43
Eldwick, Bingley	..	..	..	9	11	6	..	..
Freshfield, near Liverpool	..	..	..	..	..	2	2	1
Oubas House, Ulverston	..	..	..	..	..	..	..	18
Heswall (Non-Pulmonary cases)	..	..	..	5	6	5	3	3
Leasowe do.	..	..	..	14	16	20	20	20
West Kirby do.	..	..	..	8	9	7	8	8
				<u>48</u>	<u>84</u>	<u>79</u>	<u>83</u>	<u>97</u>
GRAND TOTAL	..	..	..	<u>509</u>	<u>535</u>	<u>552</u>	<u>555</u>	<u>641</u>

* Chadderton closed in 1920 owing to small-pox.

APPENDIX VI.

TABLE G.

AFTER-HISTORIES OF 4,535 ADULTS WHO
COMPLETED A
COURSE OF SANATORIUM TREATMENT.

APPENDIX VI.

TABLE G.—After-histories of 4,535 Adult* Patients suffering from Pulmonary Tuberculosis who have completed a course of SANATORIUM TREATMENT associated with Home Treatment and Dispensary Supervision or Treatment.

N.B.—A proportion of the patients dealt with in this Table also received treatment in Pulmonary, Observation, or General Hospitals. Patients who failed to complete two months' stay in a Sanatorium are excluded from this Table.

* Stage of Disease on First Examination by Tuberculosis Officer.	† Sputum.	Age Groups.	GROSS No. of Adults who received Sanatorium Treatment.	DEDUCT.								NETT No. of Adults who received Sanatorium Treatment.	Average Duration of Sanatorium Treatment.	Patients who applied in 1914.						Patients who applied in 1915.						Patients who applied in 1916.						Patients who applied in 1917.						Patients who applied in 1918.						Patients who applied in 1919.						Patients who applied in 1920.											
														Position at end of 1921.						Position at end of 1921.						Position at end of 1921.						Position at end of 1921.						Position at end of 1921.						Position at end of 1921.						Position at end of 1921.											
				Patients left County, Untraced. Treatment ceased for other than medical reasons.	Deaths from other than Tuber- culosis.	Diagnosis not Confirmed.	Still in Institution on 31st Dec., 1921.	Fit for Work.	Unfit for Work.	Died from Tuber- culosis.	Fit for Work.			Unfit for Work.	Died from Tuber- culosis.	Fit for Work.	Unfit for Work.	Died from Tuber- culosis.	Fit for Work.	Unfit for Work.	Died from Tuber- culosis.	Fit for Work.	Unfit for Work.	Died from Tuber- culosis.	Fit for Work.	Unfit for Work.	Died from Tuber- culosis.	Fit for Work.	Unfit for Work.	Died from Tuber- culosis.	Fit for Work.	Unfit for Work.	Died from Tuber- culosis.	Fit for Work.	Unfit for Work.	Died from Tuber- culosis.	Fit for Work.	Unfit for Work.	Died from Tuber- culosis.	Fit for Work.	Unfit for Work.	Died from Tuber- culosis.	Fit for Work.	Unfit for Work.	Died from Tuber- culosis.																
I. and I.S.	...	Positive	...	Years. 15-25 25-45 45-65 Total ...	M. 142 354 94	F. 90 181 11	M. 24 54 5	F. 14 25 1	M.	F.	M. ... 20 4	F. ... 6 1	M. 8 110 85	F. 4 72 9	M. 4.7 4.4 4.3	F. 4.9 4.6 4.8	M. ... 6 3	F. ... 2 ...	M. 3 6 9	F. ... 4 ...	M. 3 6 2	F. ... 1 ...	M. 3 10 2	F. 7 13 1	M. 7 27 8	F. 3 12 1	M. 2 7 6	F. 1 5 1	M. 12 21 3	F. 11 14 ...	M. 14 29 6	F. 3 10 3	M. 3 6 7	F. 1 6 ...	M. 9 13 3	F. 9 13 ...	M. 5 20 5	F. 4 7 ...	M. 5 15 2	F. 7 5 ...	M. 10 12 6	F. 7 5 ...	M. 6 19 4	F. 5 10 2	M. 5 14 3	F. 1 3 ...	M. 5 9 1	F. 3 8 ...													
		Negative or None		15-25 25-45 45-65 Total ...	257 430 119	257 471 54	59 81 15	56 95 6	1 2 4	2 4 ...	16 55 15	20 6 ...	3 7 ...	178 301 85	178 310 41	4.4 3.5 3.5	3.8 3.7 3.6	4 22 7	4 21 2	... 1 ...	... 2 ...	1 4 ...	3 4 ...	M. 12 16 3	F. 9 39 3	M. ... 1 ...	F. 1 2 ...	M. 4 5 2	F. 3 5 1	M. 38 46 10	F. 34 39 4	M. 1 6 1	F. 1 5 ...	M. 4 2 ...	F. 3 5 2	M. 29 34 12	F. 23 54 11	M. 4 8 2	F. 4 5 ...	M. 1 6 1	F. 1 5 ...	M. 24 48 11	F. 28 34 7	M. 7 17 3	F. 4 1 ...	M. 3 25 8	F. 8 5 ...	M. 2 4 ...	F. 2 4 ...												
II. and II.S.	...	Positive	...	15-25 25-45 45-65 Total ...	151 424 172	168 302 44	13 42 10	16 34 1	1 2 ...			2 12 8	9 11 1	135 369 153	143 255 42	5.1 4.7 4.2	5.1 4.5 4.2	1 4 2	1 8 1	1 5 1	... 1 ...	... 1 ...	M. 18 16 4	F. 14 20 5	M. ... 4 ...	F. ... 1 ...	M. 22 34 20	F. 19 27 3	M. ... 14 4	F. 3 6 ...	M. 4 9 3	F. 3 2 ...	M. 11 36 12	F. 17 34 4	M. 4 12 9	F. 8 6 8	M. 3 6 5	F. 3 6 2	M. 3 23 5	F. 8 27 2	M. 8 12 1	F. 9 11 3	M. 11 20 8	F. 9 13 4	M. 8 20 9	F. 8 14 3															
		Negative or None		15-25 25-45 45-65 Total ...	73 132 73	72 140 32	16 22 3	5 33 6	1 ... 2	1 10 5	4 10 2	4 2 3	5 1 ...	47 96 60	61 96 23	4.8 3.7 3.8	4.6 4.1 4.4	4 7 5	1 11 4	... 2 1	 1	... 7 ...	1 7 4	4 2 ...	M. 1 5 5	F. 2 13 ...	M. ... 1 ...	F. 2 3 1	M. 1 2 1	F. 2 2 ...	M. 6 6 5	F. ... 3 1	M. 8 10 7	F. 3 3 1	M. 6 9 3	F. 1 6 ...	M. 2 9 2	F. 1 6 ...	M. 6 9 3	F. 1 6 ...	M. 4 4 6	F. 13 8 4	M. 2 4 1	F. 2 4 1	M. 2 1 ...	F. 1 1 ...															
III. and III.S.	...	Positive	...	15-25 25-45 45-65 Total ...	29 62 41	21 39 7	6 8 ...	1 4 ...				... 3 2	1 1 ...	23 51 39	19 34 6	5.2 4.8 4.3	4.5 3.9 7.7	... 3 4	... 2 1	... 1 ...		... 9 9	7 10 3	M. ... 2 ...	F. 1 1 ...	M. 1	F.	M. 3 9 3	F. 2 4 ...	M. ... 1 ...	F. 3	M. ... 1 ...	F. 1	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.																
		Negative or None		15-25 25-45 45-65 Total ...	17 20 13	14 22 7	5 1 ...	1 6 2	 2	... 2 1	... 2 1	1 2 1	1	11 17 10	11 14 4	4.5 4.0 3.6	4.3 4.1 4.1	1 5 2	1 4 2	1 ... 2	... 1 ...	... 1 ...	3 4 ...	M. 2 3 ...	F. ... 1 ...	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.																

* ADULTS.—Persons 15 years of age and upwards at end of 1921 or date of death.

† Classified according to the system of Turban-Gerhardt, and further subdivided into cases with slight and severe constitutional symptoms as suggested by Philip.

‡ Where sputum is shown as positive, tubercle bacilli have been demonstrated in sputum once at any time during treatment.

¶ Six patients 65 years of age and over have for convenience been included in the group 45—65.

APPENDIX VI. (CONT.).

TABLE H.—After-histories of 457 CHILDREN* suffering from Pulmonary Tuberculosis who have completed a Course of Sanatorium Treatment associated with Home Treatment and Dispensary Supervision or Treatment.

Year of Application for Treatment.	†Stage of Disease on first Examination by Tuberculosis Officer.	‡Sputum.	Average Duration of Sanatorium Treatment. (months).	§Net No. of Children who received Sanatorium Treatment.	Position at end of 1921.		
					Fit for School.	Unfit for School.	Died from Tuberculosis.
1914	I. & I.S.	Positive	...	...	...	...	...
		Neg. or None	4.4	3	3	...	...
	II. & II.S.	Positive	...	...	...	...	...
		Neg. or None	2.2	1	1	...	...
	III. & III.S.	Positive	...	...	...	...	...
		Neg. or None	...	...	...	...	...
1915	I. & I.S.	Positive	11.5	1	1	...	...
		Neg. or None	4.7	7	5	2	...
	II. & II.S.	Positive	...	...	...	...	...
		Neg. or None	6.0	1	...	...	1
	III. & III.S.	Positive	...	...	...	...	...
		Neg. or None	...	...	...	...	...
1916	I & I.S.	Positive	...	...	...	...	...
		Neg. or None	4.9	30	28	1	1
	II. & II.S.	Positive	7.0	3	1	1	1
		Neg. or None	5.7	4	3	1	...
	III. & III.S.	Positive	...	...	...	...	...
		Neg. or None	4.0	1	...	1	...
1917	I. & I. S.	Positive	4.5	2	1	...	1
		Neg. or None	4.5	62	55	4	3
	II. & II.S.	Positive	3.2	1	...	...	1
		Neg. or None	6.4	7	6	...	1
	III. & III.S.	Positive	8.0	1	...	...	1
		Neg. or None	4.8	2	1	1	...
1918	I. & I.S.	Positive	7.7	2	...	1	1
		Neg. or None	4.9	66	61	2	3
	II. & II.S.	Positive	4.4	2	...	...	2
		Neg. or None	6.9	17	13	4	...
	III. & III.S.	Positive	3.0	1	...	...	1
		Neg. or None	5.7	3	3	...	...
1919	I. & I.S.	Positive	10.0	1	...	...	1
		Neg. or None	4.8	61	56	5	...
	II. & II.S.	Positive	2.4	2	...	1	1
		Neg. or None	5.6	15	11	4	...
	III. & III.S.	Positive	6.1	2	1	1	...
		Neg. or None	6.7	3	1	2	...
1920	I. & I.S.	Positive	...	...	...	...	...
		Neg. or None	4.9	55	41	13	1
	II. & II.S.	Positive	3.2	1	...	1	...
		Neg. or None	5.3	23	11	10	2
	III. & III.S.	Positive	...	...	...	...	...
		Neg. or None	3.1	4	3	...	1

* Children—Persons under 15 years of age at end of 1921 or date of death.

† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms, as suggested by Philip.

‡ Where sputum is shown as positive, tubercle bacilli have been demonstrated in the sputum once at any time during treatment.

§ Net. number arrived at after deducting : 44 patients left County, untraced, or treatment ceased for other than medical reasons ; 1 died from other than tuberculosis ; 10 cases diagnosis not confirmed ; 18 patients in Institutions at end of 1921.

N.B.—A proportion of the patients dealt with in this table also received treatment in pulmonary, observation, or general hospitals.

Patients who failed to complete two months' stay in a sanatorium are excluded from this table.

APPENDIX VII.

TABLE J.—Condition at end of 1921 of 476 **CHILDREN*** suffering from Pulmonary Tuberculosis who received Treatment at **HOME**, combined with Dispensary Treatment or Supervision.

N.B.—These patients have never completed a course of "Sanatorium Treatment"; a proportion of them have, however, at some time or other received treatment in Hospital (*i.e.*, Pulmonary, Observation, or General Hospital) as distinct from a Sanatorium.

Year of Application for Treatment.	†Stage of Disease on first Examination by Tuberculosis Officer.	‡Sputum.	Gross No. of Children who received Home Treatment.	§Net No. of Children who received Home Treatment.	Position at end of 1921.		
					Fit for School.	Unfit for School.	Died from Tuberculosis.
1914	I. & I.S	Positive	...	...	...	...	...
		Neg. or None	3	1	1	...	...
	II. & II.S	Positive	1	1	...	...	1
		Neg. or None	1	...	...	...	...
	III. & III.S...	Positive	...	...	...	...	...
		Neg. or None	4	3	...	...	3
1915	I. & I.S	Positive	...	...	...	...	...
		Neg. or None	11	3	3	...	...
	II. & II.S	Positive	1	1	...	...	1
		Neg. or None	6	5	...	2	3
	III. & III.S...	Positive	4	4	...	...	4
		Neg. or None	4	2	1	...	1
1916	I. & I.S	Positive	...	...	...	...	...
		Neg. or None	25	12	8	...	4
	II. & II.S	Positive	1	1	...	...	1
		Neg. or None	9	4	1	...	3
	III. & III.S...	Positive	4	4	...	...	4
		Neg. or None	8	2	1	...	1
1917	I. & I.S	Positive	2	1	...	...	1
		Neg. or None	57	28	23	2	3
	II. & II.S	Positive	1	1	...	...	1
		Neg. or None	13	8	2	2	4
	III. & III.S...	Positive	7	7	...	...	7
		Neg. or None	7	5	2	...	3
1918	I. & I.S	Positive	4	4	...	...	4
		Neg. or None	51	32	28	2	2
	II. & II.S	Positive	2	2	...	...	2
		Neg. or None	10	6	2	1	3
	III. & III.S...	Positive	6	6	1	...	5
		Neg. or None	8	8	6	1	1
1919	I. & I.S	Positive	1	1	1	...	...
		Neg. or None	56	36	27	4	5
	II. & II.S	Positive	4	4	...	...	4
		Neg. or None	12	10	5	...	5
	III. & III.S...	Positive	8	8	1	1	6
		Neg. or None	12	12	6	3	3
1920	I. & I.S	Positive	1	1	...	...	1
		Neg. or None	72	41	36	1	4
	II. & II.S	Positive	2	1	...	...	1
		Neg. or None	30	26	16	6	4
	III. & III.S...	Positive	10	9	...	1	8
		Neg. or None	18	16	6	2	8

* Children—Persons under 15 years of age at end of 1921 or date of death.

† Classified according to the system of Turban-Gerhardt, and further sub-divided into cases with slight and severe constitutional symptoms, as suggested by Philip.

‡ Where sputum is shown as positive, tubercle bacilli have been demonstrated in the sputum once at any time during treatment.

§ Net. number arrived at after deducting: 55 patients left County, untraced, or treatment ceased for other than medical reasons: 5 died from other than tuberculosis; 95 cases diagnosis not confirmed: 5 cases in Institution at end of 1921.

APPENDIX VII.

TABLE I.

RESULTS OF HOME TREATMENT COMBINED WITH
DISPENSARY TREATMENT OR SUPERVISION.

5,925 ADULT PATIENTS SUFFERING FROM
PULMONARY TUBERCULOSIS.

APPENDIX VII.

TABLE I.—Condition at end of 1921 of 5,925 ADULT* Patients suffering from Pulmonary Tuberculosis who received Treatment at HOME, combined with Dispensary Treatment or Supervision.

N.B.—These patients have never completed a course of "Sanatorium Treatment"; a proportion of them have, however, at some time or other received treatment in Hospital (*i.e.*, Pulmonary, Observation, or General Hospital) as distinct from a Sanatorium.

[illegible]

* ADULTS.—Persons 15 years of age and upwards at end of 1921 or date of death.

† Classified according to the system of Turban-Gerhardt, and further subdivided into cases with slight and severe constitutional symptoms as suggested by Philip.

¶ Sixty-seven patients 65 years of age and over, and 10 patients 55 years of age and over, had been positive in sputum at any time during treatment.

¶ Sixty-seven patients 65 years of age and over have for convenience been included in the group 45—65.

